

v. 3028 No. 15540

United States  
Court of Appeals  
for the Ninth Circuit

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C. MARTIN WELCH,

Appellant.

vs.

EUGENE L. GRINDLE,

Appellee.

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Transcript of Record  
(In Three Volumes)

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Volume I  
(Pages 1 to 364)

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Appeal from the United States District Court for the  
Northern District of California.

Southern Division

FILED

JUL 18 1957

PAUL P. O'BRIEN, CLERK



No. 15540

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Court of Appeals  
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[Clerk's Note: When deemed likely to be of an important nature, errors or doubtful matters appearing in the original certified record are printed literally in *italic*; and, likewise, cancelled matter appearing in the original certified record is printed and cancelled herein accordingly. When possible, an omission from the text is indicated by printing in *italic* the two words between which the omission seems to occur.]

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San Francisco 4, California,

For Appellee.

MESSRS. NAYLOR & NEAL,  
401 Russ Building,  
San Francisco, California,

For Appellant.





In the United States District Court, Northern  
District of California, Southern Division

Civil Action No. 34531

EUGENE L. GRINDLE,

Plaintiff,

vs.

C. MARTIN WELCH, Doing Business as C. Martin  
Welch & Co.,

Defendant.

### COMPLAINT

Comes Now, Eugene L. Grindle, the plaintiff  
above named, and for cause of action against the  
defendant alleges:

#### I.

That plaintiff, Eugene L. Grindle, is a citizen of  
the United States and a resident of San Mateo, Cali-  
fornia.

#### II.

That on information and belief, C. Martin Welch  
is a citizen of the United States and a resident of  
Millbrae, California, and that he is doing business  
under the name of C. Martin Welch & Co., and has  
a regular and established place of business at San  
Francisco, California.

#### III.

That this court has jurisdiction of this cause be-  
cause the same arises under the patent laws of the  
United States of America.

## IV.

That United States Letters Patent No. 2,534,644 for a "Liquid Measuring Gauge" filed August 17, 1949, was granted on December 19, 1950, to defendant, C. Martin Welch.

## V.

That an actual controversy exists between plaintiff and defendant because plaintiff has demanded an assignment of Letters Patent No. 2,534,644 to him and the defendant has refused to do the same, and defendant has advised plaintiff that if plaintiff undertakes the manufacture and sale of a dipstick incorporating the subject matter of said Letters Patent, defendant will enforce said Letters Patent No. 2,534,644 against plaintiff.

## VI.

That plaintiff, Eugene L. Grindle, is an employee of Pan American World Airways, Inc., and was an employee of Pan American World Airways, Inc., at the time he invented the subject matter of said Letters Patent.

## VII.

That prior to April 28, 1948, plaintiff, Eugene L. Grindle, conceived the invention embodied in the subject matter of Letters Patent No. 2,534,644 and made a working model of the invention, tested it and found it operable.

## VIII.

That on or about April 28, 1948, plaintiff, Eugene L. Grindle, disclosed and gave to defendant, C.

Martin Welch, a plastic fuel tank dipstick embodying the material portion of the invention in said Letters Patent (the fuel tank dipstick still being in possession of defendant) and requested a quotation on supplying the same to Pan American World Airways, Inc. At the same time, plaintiff gave a sketch to defendant which had been prepared by plaintiff on the special plastic molding from which the sticks were to be fabricated. After receiving the above, defendant gave the opinion that the special plastic molding proposed by plaintiff would be very expensive to fabricate in that special dies would be required. At the same time defendant gave to plaintiff several pieces of standard extruded plastic tubing, some of the tubing being  $\frac{3}{4}$ " x  $\frac{3}{4}$ " and asked plaintiff if he could use any of this standard plastic tubing in his proposed dipsticks. Plaintiff then redesigned the dipstick using the  $\frac{3}{4}$ " x  $\frac{3}{4}$ " square standard plastic tubing and submitted a sketch of the same to defendant for quotation. Defendant then made a quotation and offer of sale on June 6, 1948, to Pan American World Airways, Inc., on the redesigned dipstick. Pan American World Airways, Inc., gave defendant an order for a quantity of the redesigned dipsticks based upon the quotation. Pan American World Airways, Inc., also gave defendant a letter releasing the design to him to market as he saw fit. Defendant delivered the ordered dipsticks and Pan American World Airways, Inc., publicly used the same. Subsequent thereto defendant misappropriated the invention of plaintiff and filed an applica-

tion for Letters Patent on August 17, 1949, without the knowledge or consent of plaintiff, Eugene L. Grindle, or Pan American World Airways, Inc.

#### IX.

That defendant, C. Martin Welch, falsely swore under oath that he was the original and first inventor of the subject matter of Letters Patent No. 2,534,644 and also falsely swore under oath that the invention had not been in public use or on sale in the United States for more than one year prior to his application for patent.

#### X.

That Pan American World Airways, Inc., has waived any claim or interest in and to said invention, with the exception of a "shopright."

#### XI.

That Letters Patent No. 2,534,644 is invalid and void in that defendant was not the original and first inventor of the subject matter of said patent.

#### XII.

That Letters Patent No. 2,534,644 is invalid and void in that the invention was offered for sale, sold, and publicly used in this country more than one year prior to the date of application for said Letters Patent in the United States.

Wherefore, plaintiff prays:

1. That a judgment be entered decreeing that Letters Patent No. 2,534,644 is invalid and void in

that defendant was not the original and first inventor of the subject matter of said patent.

2. That a judgment be entered decreeing said Letters Patent is invalid and without legal effect and particularly that the patent is barred by statute in that the invention had been in public use or on sale in the United States for more than one year prior to application for Letters Patent.

3. That an order be entered decreeing that said Letters Patent and the invention therein be assigned to plaintiff, Eugene L. Grindle and that defendant is estopped to deny the validity of said Letters Patent because of estoppel by deed and estoppel by conduct.

4. That a judgment be entered decreeing that Eugene L. Grindle has the right to manufacture and sell dipsticks incorporating the subject matter of said Letters Patent.

5. That preliminary and final injunctions issue out of and under the seal of this court enjoining defendant from further manufacture and sale of dipsticks incorporating the subject matter of said Letters Patent in view of the unconscionable conduct of defendant.

6. That defendant be ordered to account to plaintiff for damages suffered by plaintiff by reason of having prevented plaintiff from entering into the manufacture and sale of the dipsticks embodying the subject matter of said Letters Patent.

7. That plaintiff have judgment against defendant for costs and disbursements herein, including reasonable attorneys' fees.

8. That plaintiff have such further relief as is deemed fitting and proper.

FLEHR AND SWAIN,  
/s/ HAROLD C. HOHBACH.

[Endorsed]: Filed March 25, 1955.

---

[Title of District Court and Cause.]

#### ANSWER

Answering the Complaint on file herein, C. Martin Welch, the defendant herein, admits, denies and alleges as follows:

1. Defendant admits the allegations of Paragraphs I and II of the Complaint on file herein.

2. Defendant denies the allegations of Paragraph III of the Complaint on file herein.

3. Defendant admits the allegations of Paragraph IV of the Complaint on file herein.

4. Defendant, answering Paragraph V of the Complaint on file herein, denies that an actual controversy exists between plaintiff and defendant concerning any subject matter properly or lawfully cognizable in this Honorable Court; admits that



plaintiff has demanded an assignment of Letters Patent No. 2,534,644 to him and that defendant has refused to do the same, but avers that the said demand is wholly without merit or legal justification; defendant denies that he has advised plaintiff that if plaintiff undertakes the manufacture and sale of a dipstick incorporating the subject matter of said Letters Patent, defendant will enforce said Letters Patent No. 2,543,644, and alleges the facts to be that, in a conference held in the office of plaintiff's attorneys, exploring the possibilities of settlement, and attended by plaintiff and his attorney and defendant and his counsel, J. Bruce Fratis, Esq., defendant was asked by one of plaintiff's attorneys, in substance, whether it was defendant's contention that plaintiff did not have the right to make the Dipstick forming the subject of the Letters Patent in suit, to which defendant replied that plaintiff could make the structure called for in a certain drawing of plaintiff's making, but that defendant would enter into no agreement with plaintiff with respect to the plaintiff making the structure forming the subject matter of the Letters Patent in suit.

5. Defendant admits the allegations of Paragraph VI of the Complaint on file herein save and except to deny plaintiff's claim of invention of the subject matter of the Letters Patent in suit.

6. Defendant denies the allegations of Paragraph VII of the Complaint on file herein.

7. Answering Paragraph VII of the Complaint on file herein, defendant denies that on or about

April 28, 1948, or at any other time, plaintiff disclosed and gave to defendant a plastic fuel tank dipstick embodying the material portion of the invention in the Letters Patent in suit and requested a quotation on supplying the same to Pan American World Airways, Inc., and defendant denies that he has in his possession any fuel tank dipstick given him by plaintiff, but defendant admits that some time after April 28, 1948, and following plaintiff's previous disclosure thereof to various other manufacturers in plaintiff's quest for manufacturing quotations, plaintiff disclosed and gave to defendant a model and sketch of a plastic fuel tank dipstick asserted to be of plaintiff's origination and differing substantially from the subject matter of the Letters Patent in suit and requested a quotation on supplying the same to Pan American World Airways, Inc.

Further answering Paragraph VIII of the Complaint on file herein, defendant admits that following receipt of the aforesaid model and sketch, defendant gave the opinion that the special plastic molding proposed by plaintiff was impracticable and would be very expensive to fabricate in that special dies would be required.

Answering further said Paragraph VIII of the Complaint on file herein, defendant denies that at the time of giving the opinion above referred to, defendant gave to plaintiff several pieces of standard plastic tubing, as such, and asked plaintiff if he could use any of the same in his proposed dipsticks, and defendant alleges the facts to be that upon that



occasion defendant handed to plaintiff a mock-up model of a dipstick assembly embodying substantially the subject matter of Claim 1 of the said Letters Patent in suit, but less the end plugs defined therein, which defendant, with the aid of others, had designed and made to demonstrate a dipstick that could feasibly be manufactured in lieu of the device theretofore disclosed to defendant by plaintiff.

Answering further said Paragraph VIII of the Complaint on file herein, defendant denies that plaintiff then redesigned the dipstick using square standard plastic tubing, and alleges the facts to be that plaintiff merely caused a drawing to be prepared according to the mock-up model of the dipstick assembly supplied by defendant to plaintiff and submitted a print of same to defendant for quotation. Defendant admits that he made a quotation and offer of sale on or about June 6, 1948, to Pan American World Airways, Inc., as to dipsticks of defendant's design, but denies that the same appertained to any redesign attributable to plaintiff. Defendant admits that Pan American World Airways, Inc., gave defendant an order for a quantity of the dipsticks redesigned as aforesaid and based upon defendant's quotation and admits that Pan American World Airways, Inc., also gave defendant a letter, authored by plaintiff herein, releasing the design to defendant to market as he saw fit.

Answering further said Paragraph VIII of the Complaint on file herein, defendant admits that

thereafter he delivered the ordered dipsticks made as defined in Claim 1 of said Letters Patent in suit, and Pan American World Airways, Inc., publicly used the same. Defendant admits that on August 17, 1949, he filed the application for said Letters Patent in suit, but denies that knowledge or consent of plaintiff or Pan American World Airways, Inc., were proper or necessary conditions precedent thereto and denies that, at any time, defendant misappropriated an invention of plaintiff.

8. Defendant denies the allegations of Paragraph IX of the Complaint on file herein, and alleges the facts to be that at all times relative to the preparation and filing of said application of Letters Patent, defendant was acting under the guidance and advice of one Baldwin Vale, a Registered Patent Agent, now deceased.

9. Defendant admits that Pan American World Airways, Inc., has waived any claim or interest in and to plaintiff's alleged invention, with the exception of an alleged "shopright," as alleged in Paragraph X of the Complaint on file herein, and avers that the same was given at the request of plaintiff herein as an afterthought and in addition to and notwithstanding the prior release given by said Pan American World Airways, Inc., to defendant.

10. Defendant denies the allegations of Paragraph XI of the Complaint on file herein.

11. Defendant admits the allegations of Paragraph XII of the Complaint with respect to Claim 1

of said Letters Patent, but denies the same with respect to Claims 2 and 3 thereof.

As and for Further Answer and by Way of Special Defenses, Defendant Avers as Follows:

1. Defendant asserts that this Court is without jurisdiction of the subject matter of this cause in that it is based upon a claim of title to the Letters Patent in suit justiciable in the Courts of the State of California, and there is no genuine or actual controversy existing between the parties relative to validity or infringement such as is cognizable by this Court under the Declaratory Judgment Act.

2. The right of action set forth in the Complaint did not accrue within the three-year period before the commencement of the action, as required by the applicable Statute of Limitations, and particularly the Statute of Limitations of the State of California (Calif. Code Civ. Proc. Sec. 338 (4)).

3. Plaintiff had knowledge or was chargeable with knowledge or had constructive notice of the fact that defendant had made application for and was granted the Letters Patent in suit for more than three (3) years prior to the commencement of this action, wherefore plaintiff's asserted claim is barred by the California Statute of Limitations (CCP 338 (4)).

4. Plaintiff having knowledge or being chargeable with knowledge or having had constructive notice of the fact that defendant had made appli-

cation for and was granted the Letters Patent in suit for more than three (3) years prior to the commencement of this action and having nevertheless remained silent and inactive, is guilty of gross laches and acquiescence and the asserted claim should, therefore, be dismissed.

5. Plaintiff having knowledge or being chargeable with knowledge or having had constructive notice of the fact that defendant had made application for and was granted the Letters Patent in suit for more than three (3) years prior to the commencement of this action and further having actual knowledge that defendant was building up a business in the manufacture and sale of the Dipsticks forming the subject matter of the Letters Patent in suit pursuant to and in reliance upon the June 10, 1948, release granted defendant by Pan American World Airways, Inc., and plaintiff having remained silent from June 10, 1948, to approximately the date of commencement of this action, and plaintiff having participated in the preparation and grant of said release, plaintiff is now estopped from asserting that defendant's conduct in the manufacture and sale of the said Dipsticks pursuant to the said release has been anything but lawful and proper.

6. If plaintiff, in fact, invented a Dipstick or the Dipstick forming the subject matter of the Letters Patent in suit, said invention was made pursuant to the specific request of his employer and

during the course of his employment and, absent agreement to the contrary, the entire right, title and interest in and to said invention belonged to Pan American World Airways, Inc., in consequence whereof Pan American World Airways, Inc., had the right to grant the release of June 10, 1948, to defendant, and plaintiff is wholly without right or authority to revoke the said release either directly or indirectly.

7. If plaintiff, in fact, invented a Dipstiek or the Dipstiek forming the subject matter of the Letters Patent in suit and had any right therein paramount to or jointly with the rights of his employer, Pan American World Airways, Inc., at the time said Pan American World Airways, Inc., granted the June 10, 1948, release to defendant, plaintiff waived those rights and consented to the release by Pan American World Airways, Inc., to defendant by participating in the preparation and granting of said release and is now estopped to assert any right against the defendant adverse to or in derogation of the rights released to the defendant by said Pan American World Airways, Inc.

8. The defendant, by virtue of a letter dated June 10, 1948, from Pan American World Airways, Inc., releasing the design of the Dipsticks to defendant to market as he saw fit, was duly licensed to make and sell the said Dipsticks and has acted pursuant to the said license in his manufacture and sale of the same.



9. Defendant alleges that plaintiff is not genuinely in the business of making and selling Dipsticks embodying the invention forming the subject matter of any of the claims of the Letters Patent in suit in the sense or degree that would give rise to the existence of an actual controversy concerning infringement or validity of the Letters Patent in suit, but on the contrary plaintiff has merely gone through the motions with respect to manufacture and sale of said articles in an abortive attempt to create an actual controversy cognizable by this Court under the Declaratory Judgment Act and therefore this action is a sham action that should be dismissed.

10. Plaintiff, having commenced this action upon the basis of a stale claim respecting title to the Letters Patent in suit and upon the basis of a sham action with respect to a non-genuine claim of existence of an actual controversy between the parties, is not acting in good faith in the commencement and prosecution of this action and the same should, therefore, be dismissed.

Wherefore, Defendant Prays:

1. That it be ordered that Plaintiff take nothing by his complaint on file herein and that the same be dismissed with costs to the defendant.

2. That plaintiff be ordered to pay unto defendant his reasonable attorneys' fees incurred in the defense of this action.

3. That defendant have such other and further relief as may be deemed meet and just.

NAYLOR & NEAL,  
JAS. M. NAYLOR,  
FRANK A. NEAL,

By /s/ JAS. M. NAYLOR,  
Attorneys for Defendant.

Receipt of copy acknowledged.

[Endorsed]: Filed July 29, 1955.

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[Title of District Court and Cause.]

AMENDED AND SUPPLEMENTAL  
COMPLAINT

Comes Now Eugene L. Grindle, the plaintiff above named, and for cause of action against the defendant alleges:

I.

That plaintiff, Eugene L. Grindle, is a citizen of the United States and a resident of San Mateo, California.

II.

That on information and belief, C. Martin Welch is a citizen of the United States and a resident of Millbrae, California, and that he is doing business under the name of C. Martin Welch & Co. and has a regular and established place of business at San Francisco, California.

## III.

That this court has jurisdiction of this cause because the same arises under the patent laws of the United States of America.

## IV.

That United States Letters Patent No. 2,534,644 for a "Liquid Measuring Gauge," filed August 17, 1949, was granted on December 19, 1950, to defendant, C. Martin Welch.

## V.

That an actual controversy exists between plaintiff and defendant. The plaintiff has now, and did have on or about October 1, 1953, the immediate intent to manufacture and sell dipsticks made in accordance with Plaintiff's Exhibit 8 and the disclosure of Letters Patent No. 2,534,644. Plaintiff is president of Deterjet Corporation and has orally licensed Deterjet Corporation to manufacture and sell dipsticks. Plaintiff has made a cost study on the feasibility of manufacturing and selling dipsticks. Plaintiff, through Deterjet Corporation, has requested and received quotations on the wood fillers and plastic extrusions required. Deterjet Corporation has assets of approximately \$11,000.00 which it intends to use for the manufacture and sale of dipsticks. Deterjet Corporation, at the present time and for the past several years, has been manufacturing and selling vibrometers to the airlines and the Air Force. Plaintiff has caused Deterjet Corporation to have made master templates to produce



the scales required in the manufacture of dipsticks at a cost of nearly \$500.00. Plaintiff has also caused Deterjet Corporation to have manufactured special tools and jigs to assist in the manufacture and sale of dipsticks. Plaintiff has caused Deterjet Corporation to make up several production models which have been accepted. Plaintiff has been threatened with infringement litigation in that defendant advised plaintiff that if plaintiff undertakes the manufacture and sale of a dipstick incorporating the subject matter of said Letters Patent, defendant will enforce said Letters Patent against plaintiff.

## VI.

That plaintiff, Eugene L. Grindle, is an employee of Pan American World Airways, Inc., and was an employee of Pan American World Airways, Inc., at the time he invented the subject matter of said Letters Patent.

## VII.

That prior to April 28, 1948, plaintiff, Eugene L. Grindle, conceived the invention embodied in the subject matter of Letters Patent No. 2,534,644 and made a working model of the invention, tested it and found it operable.

## VIII.

That on or about April 28, 1948, plaintiff, Eugene L. Grindle, disclosed and gave to defendant, C. Martin Welch, in trust and confidence a plastic fuel tank dipstick embodying the material portion of the invention in said Letters Patent (the fuel tank

dipstick still being in possession of defendant) and requested a quotation on supplying the same to Pan American World Airways, Inc. At the same time, plaintiff gave a sketch to defendant which had been prepared by plaintiff on the special plastic molding from which the sticks were to be fabricated. After receiving the above, defendant gave the opinion that the special plastic molding proposed by plaintiff would be very expensive to fabricate in that special dies would be required. At the same time defendant gave to plaintiff several pieces of standard extruded plastic tubing, some of the tubing being  $\frac{3}{4}$ " x  $\frac{3}{4}$ " and asked plaintiff if he could use any of this standard plastic tubing in his proposed dipsticks. Plaintiff then redesigned the dipstick using the  $\frac{3}{4}$ " x  $\frac{3}{4}$ " square standard plastic tubing and submitted a sketch of the same to defendant for quotation. Defendant then made a quotation and offer of sale on June 6, 1948, to Pan American World Airways, Inc., on the redesigned dipstick. Pan American World Airways, Inc., gave defendant an order for a quantity of the redesigned dipsticks based upon the quotation. Pan American World Airways, Inc., also gave defendant a letter releasing the design to him to market as he saw fit. Defendant delivered the ordered dipsticks and Pan American World Airways, Inc., publicly used the same. Subsequent thereto defendant fraudulently misappropriated the invention of plaintiff and filed an application for Letters Patent on August 17, 1949, without the knowledge or consent of the plaintiff, Eugene L. Grindle, or Pan American World Air-

ways, Inc., and in violation of the trust and confidence reposed in him. Plaintiff was transferred on June 1, 1949, from the Engineering Department at Pan American World Airways, Inc., where he had designed the dipstick into another department where he had no contact with the dipstick program of Pan American World Airways, Inc. Plaintiff did not discover the fraudulent act of the defendant until September 28, 1953, when he was called in to witness a calibration check of the fuel tanks of B-377 aircraft at which time his attention was called to the fact that a patent number appeared on the dipstick being used in the test. Plaintiff was aware of no facts before that time that would have aroused any suspicion that the defendant had patented plaintiff's dipstick. Since September 28, 1953, plaintiff has been diligently pursuing his rights against the defendant.

#### IX.

That defendant, C. Martin Welch, falsely swore under oath that he was the original and first inventor of the subject matter of Letters Patent No. 2,534,644 and also falsely swore under oath that the invention had not been in public use or on sale in the United States for more than one year prior to his application for patent.

#### X.

That Pan American World Airways, Inc., has waived any claim or interest in and to said invention, with the exception of a "shopright."

## XI.

That Letters Patent No. 2,534,644 is invalid and void in that defendant was not the original and first inventor of the subject matter of said patent.

## XII.

That Letters Patent No. 2,534,644 is invalid and void in that the invention was offered for sale, sold, and publicly used in this country more than one year prior to the date of application for said Letters Patent in the United States.

Wherefore, plaintiff prays:

1. That a judgment be entered decreeing that Letters Patent No. 2,534,644 is invalid and void in that defendant was not the original and first inventor of the subject matter of said patent.

2. That a judgment be entered decreeing said Letters Patent is invalid and without legal effect and particularly that the patent is barred by statute in that the invention had been in public use or on sale in the United States for more than one year prior to application for Letters Patent.

3. That an order be entered decreeing that said Letters Patent and the invention therein be assigned to plaintiff, Eugene L. Grindle, and that defendant is estopped to deny the validity of said Letters Patent because of estoppel by deed and estoppel by conduct.

4. That a judgment be entered decreeing that Eugene L. Grindle has the right to manufacture

and sell dipsticks incorporating the subject matter of said Letters Patent.

5. That preliminary and final injunctions issue out of and under the seal of this court enjoining defendant from further manufacture and sale of dipsticks incorporating the subject matter of said Letters Patent in view of the unconscionable conduct of defendant.

6. That defendant be ordered to account to plaintiff for damages suffered by plaintiff by reason of having prevented plaintiff from entering into the manufacture and sale of the dipsticks embodying the subject matter of said Letters Patent.

7. That plaintiff have judgment against defendant for costs and disbursements herein, including reasonable attorneys' fees.

8. That plaintiff have such further relief as is deemed fitting and proper.

FLEHR & SWAIN,  
PAUL D. FLEHR,  
JOHN F. SWAIN,  
HAROLD C. HOHBACH,

/s/ HAROLD C. HOHBACH,  
Counsel for Plaintiff.

[Endorsed]: Filed March 1, 1956.

[Title of District Court and Cause.]

MOTION TO REOPEN CASE AND FOR  
ORDER REVOKING DISCLAIMER

Now comes C. Martin Welch, defendant herein, and respectfully moves the Court to reopen the case for the purpose of taking further evidence herein and for an order revoking the disclaimer of Claim One (1) of the Letters Patent in suit.

The motion will be based upon the affidavits of C. Martin Welch, defendant herein, and Francis J. Burke, filed concurrently herewith, the papers and record on file herein including the Reporter's Transcript of Proceedings and the exhibits introduced herein, and the accompanying Memorandum of Points and Authorities.

NAYLOR & NEAL,  
JAS. M. NAYLOR,  
FRANK A. NEAL,

By /s/ JAS. M. NAYLOR,  
Attorneys for Defendant.

[Endorsed]: Filed May 25, 1956.



[Title of District Court and Cause.]

AFFIDAVIT OF C. MARTIN WELCH SUP-  
PORTING MOTION TO REOPEN CASE  
AND FOR ORDER REVOKING DIS-  
CLAIMER

State of California,  
City and County of San Francisco—ss.

C. Martin Welch, being first duly sworn, deposes and says:

(1) That he is the defendant in the above-entitled action;

(2) That he has read and knows of the complaint and answer on file herein;

(3) That in approximately the months of March and April, 1955, the complaint on file herein and particularly Paragraphs VIII, IX and XII thereof, were read and interpreted for affiant by his counsel, Jas. M. Naylor and Frank A. Neal, and it was explained to affiant that available records should be carefully checked and scrutinized by affiant to determine the earliest effective "Public use or on sale" date with respect to Dipsticks embodying the subject matter of the Letters Patent in suit, in relation to the one-year period preceding August 17, 1949, the filing date of the application which matured into the Letters Patent in suit;

(4) That from the nature and character of the records kept by affiant in the years 1948-1949 it was

impossible to determine accurately therefrom the precise date of public use or sale of the subject devices;

(5) That for this reason, and in accordance with the suggestion of his counsel, affiant asked leave to inspect the pertinent records of Pan American World Airways System at Mills Field, California, to determine the precise date of delivery of the first batch of Dipsticks to said company; that affiant was informed that the records of said Pan American Airways for the year 1948 had been microfilmed; that affiant was told to wait while one of the employees of Pan American World Airways System located the pertinent reel of microfilm; that shortly afterwards affiant was escorted into a viewing room and was granted the privilege of viewing, specifically, a Receiving Report purporting to be dated August 12, 1948, No. 49986 (Plaintiff's Exhibit 17 herein), and purporting to evidence the fact that on said date affiant delivered 54 Fuel Tank Dipsticks to said Pan American World Airways System and that seven (7) of the same were rejected;

(6) That relying on the said microfilmed copy of said Receiving Report of Pan American World Airways System in good faith, and having then discovered nothing of record anywhere to the contrary, affiant duly reported his findings to his counsel and, in response to questioning about the same, advised his counsel that he was reluctantly obliged to admit that the delivery of the Dipsticks to said Pan American World Airways System had taken place



on August 12, 1948, or five (5) days more than one (1) year prior to the filing of affiant's application for the Letters Patent in suit on August 17, 1949, and affiant authorized the preparation of the answer on file herein admitting the invalidity of Claim 1 of said patent;

(7) That on or about February 6th, 1956, affiant authorized his counsel to implement the admission of the answer on file herein by the filing of a disclaimer of Claim 1 (one) of the Letters Patent in suit, and Defendant's Exhibit I-1 is a copy thereof;

(8) That upon the trial of the cause affiant heard the evidence adduced by plaintiff herein, both oral and documentary, concerning the asserted date of August 12, 1948, as the first "Public use or on sale" date for Dipsticks embodying the subject matter of Claim 1 of the Letters Patent in suit, and particularly the testimony given thereon by Plaintiff Grindle at Tr. PP. 92 to 95, inclusive;

(9) That upon observing Plaintiff's Exhibit 17 and the reason stated thereon for rejection of seven (7) of the Dipsticks, namely, "Scales Improperally (sic) Located in Tube," and hearing the oral testimony bearing thereon, your affiant's suspicions were aroused concerning the reliability of such evidence; that your affiant's doubts about the truthfulness of said evidence were, in large part, based upon the fact that, considering that the initial quantity of Dipsticks for Pan American were made up with one continuous strip of paper chart adhesively affixed

to the wooden core, it would have been quite unlikely for any of the scales to have been improperly located in the tube; that the girl employees of Independent Press Room, Inc., were carefully instructed to set the charts even with the bottom of the wood cores and, to the best of affiant's recollection, these instructions were faithfully carried out;

(10) That affiant, being still unconvinced that the said Receiving Reports of August 12, 1948; (Plaintiff's Exhibits 16 and 17), were true and correct in all respects, acquainted his counsel with the doubts affiant entertained and was advised to make a further and continuing investigation of the facts relative to the delivery date of said initial quantity of Dipsticks to said Pan American World Airways System; that acting in accordance therewith affiant checked the microfilmed records of said Pan American World Airways System and procured photographs of the following exhibits which dispute and raise further doubts about the truthfulness and reliability of said Receiving Reports of August 12, 1948, and the testimony adduced and given by Plaintiff Grindle concerning the same;

(11) That whereas the said Receiving Report (Plaintiff's Exhibit 17), a duplicate print of which is annexed hereto as Affidavit Exhibit A, purports to bear the Serial No. 49986 and the date of August 12, 1948, and to show receipt on the stated date of 54 Part Number 32.061.114 C-54DC Fuel Tank Dipsticks, with an undated handwritten correction to state that 7 of the articles were rejected, actually

Receiving Report No. 49700 (Plaintiff's Exhibit 16) also bearing the date August 12, 1948, and purporting to record the fact of rejection of 7 of the Dipsticks and with reference thereon to said Receiving Report 49986 in the past tense in the particular of deletion of said 7 articles therefrom, bears a lower serial number than said Affidavit Exhibit A, by 286 numbers, all as will appear from a photoprint thereof annexed hereto and marked Affidavit Exhibit B.

(12) That what purports to be an inspection report on the initial quantity of 54 Dipsticks delivered by affiant to said Pan American World Airways System, a document that was not produced by Plaintiff Grindle at the time of trial, was dated August 18, 1948, or one day less than the critical one-year period prior to affiant's patent application filing date of August 17, 1949, as will appear from the photoprint thereof annexed hereto as affidavit Exhibit C; that the said memorandum was written and dated in longhand by a person who signed with the initials "W.T.H.," and directed that a change be made on said Receiving Report of August 12, 1948 (affidavit A), which, if said Affidavit Exhibit B is to be believed, had already been accomplished as plainly stated thereon;

(13) That Pan American World Airways System Receiving Report No. 51133, bearing date of August 23, 1948, a photoprint of which is annexed hereto as Affidavit Exhibit D, purports to record the receipt from affiant of 24 additional Dipsticks,

whereas Pan American World Airways System Receiving Report No. 50135, a photoprint of which is annexed hereto as Affidavit Exhibit E, bearing a lower serial number by some 998 numbers, is dated some three (3) days later or on August 26, 1948, and purports to record receipt of the final count of 29 Dipsticks from affiant to make up the initial order of 100 (Plaintiff's Exhibit 11);

(14) That contemporary microfilmed records of said Pan American World Airways System show a surprising lack of chronology as to date and serial numbers of Receiving Reports, as shown by the following photoprints:

No. 49999, dated Aug. 4, 1948, Affidavit Ex. F.

No. 50195, dated Aug. 5, 1948, Affidavit Ex. G.

No. 49764, dated Aug. 11, 1948, Affidavit Ex. H.

No. 49715, dated Aug. 17, 1948, Affidavit Ex. I.

(15) That whereas plaintiff, Eugene Grindle, testified on the trial (Tr. 94) that immediately upon receipt of the initial quantity of Dipsticks from affiant he, plaintiff, distributed the same to other employees of said Pan American World Airways System, the earliest record found by affiant of such distribution was Pan American World Airways System Shipping Order No. P22361, dated August 19, 1948, to record the fact of shipment on that date of one (1) of said Dipsticks to one E. A. Del Valle, PAA Resident Engineer, c/o Boeing Aircraft Co., Seattle, Washington, as per photoprint annexed hereto as Affidavit Exhibit J;

(16) That your affiant has read the affidavit of Francis J. Burke, filed concurrently herewith, and knows the contents thereof; that it is affiant's best recollection that Mr. Burke delivered the 100 wooden cores with paper charts pasted thereon to his home in one batch and at the same time that affiant thereupon commenced the assembly work and sealing of the ends to complete the Dipsticks and thereafter delivered the same to Pan American World Airways System;

(17) That while your affiant does not recall a partial delivery by Mr. Burke of wooden cores with charts pasted thereon, he asserts that if such did occur on August 13, 1948, after the Girls' Hand-work was done on that day, as set forth in Mr. Burke's affidavit, it would have been physically impossible for affiant to have assembled and sealed 54 of the Dipsticks on that date (August 13, 1948) and delivered the same to Pan American World Airways System on that same day.

(18) That it now appears that your affiant was unwittingly misled into accepting the Pan American World Airways System Receiving Report (Plaintiff's Exhibit 17) of August 12, 1948, at its face value and as a true and correct recording of the actual delivery date of the initial quantity of 54 Dipsticks of the 100 ordered by Pan American World Airways System; that your affiant relied on the same in good faith and in the belief that the same was accurate, but that it now appears that the credibility of said record has been impugned, if



not destroyed, and should not be regarded as a reliable index of the date of delivery for purposes of fixing the one-year period of permissible public use or sale for purposes of determining the validity of Claim 1 of the Letters Patent in suit and especially the disclaimer thereof.

/s/ C. MARTIN WELCH.

Sworn and subscribed before me, a Notary Public, this 23rd day of May, 1956.

[Seal]      /s/ LILLIAN PRATHER,  
Notary Public.

[Endorsed]: Filed May 25, 1956.

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[Title of District Court and Cause.]

AFFIDAVIT OF FRANCIS J. BURKE SUP-  
PORTING MOTION TO REOPEN CASE  
AND FOR ORDER REVOKING DIS-  
CLAIMER

State of California,  
City and County of San Francisco—ss.

Francis J. Burke, being first duly sworn, deposes and says as follows:

(1) That he resides in the City of Millbrae, County of San Mateo, State of California, and is the Secretary of and a salesman for Independent Press Room, Inc., a California corporation, with its place of business at 300 Broadway, in the City

and County of San Francisco, State of California, and that he has been connected with said concern since prior to the month of July, 1948;

(2) That in the months of July and August, 1948, affiant represented said Independent Press Room, Inc., in the handling and filling of an order for C. Martin Welch covering the imprinting and application of certain gauge sheets or strips to Gasoline Dipsticks or Measuring Rods and, as such, is personally familiar with the history of the work that was done on the said order;

(3) That during the first week of May, 1956, affiant was asked by said C. Martin Welch if affiant could locate any records of said Independent Press Room, Inc., that would show precisely the history of the work that had been done on said order; that by diligent search affiant was able to locate the Cost Record and Job Tracer maintained by said Independent Press Room, Inc., and embracing the months of July and August, 1948, and that Affidavit Exhibit A, annexed hereto, is a photostatic reproduction of the July 29, 1948, page thereof, giving the history of said order No. 50759 of C. Martin Welch for said Aviation Gasoline Measuring Rods, and which page forms a part of the bound volume of said record;

(4) That in order to interpret the entries appearing on Affidavit Exhibit A, as hereinafter set forth, it is first believed necessary to direct attention to the characteristics of the gauge sheets or

graduation charts that were a part of the subject matter of the said C. Martin Welch order, and Affidavit Exhibit B, tendered herewith, is an actual sample of one of said sheets adhesively secured to a wooden core member which sample was unearthed by affiant at the plant of said Independent Press Room, Inc., as a relic of said transaction; that, as will be seen, Independent Press Room, Inc., was asked to produce and did produce integral strips of paper upon which were imprinted certain graduation or depth gauge marks, and that one each of said strips were then adhesively secured to a wooden core stick having grooves mitered in two of its opposite corners; that said Independent Press Room, Inc., produced the said gauge sheets or chart strips in press sheets 8 x 38 inches which were then printed and then trimmed for application to the individual wooden core sticks;

(5) That the said Record, Affidavit Exhibit A, indicates that two zinc line engravings were received complete from Walker Engraving (Walker Engraving Corporation of America, located at 333 Fremont Street, San Francisco, California), and that on Friday, July 30, and Monday, August 2, 1948, 430 impressions were run from said engravings.

(6) That said Record, Affidavit Exhibit A, further shows that on Tuesday, August 3, and Wednesday, August 4, 1948, the said sheets were cut into the aforesaid individual stick strips and that on Thursday, August 3, 1948, attempts were first made



to paste or adhesively secure said individual strips to said wooden cores, as will be noted from an entry on said Affidavit, Exhibit A, under the columnar title, "Girls' Handwork"; that your affiant asserts that the initial efforts at obtaining a successful application of said paper strips to said wooden cores were totally unsuccessful, due to the irregularity of the surface of said wooden cores and the inability of Independent Press Room, Inc., to procure a satisfactory adhesive that would bond the paper to the wood free of bubbles or other surface irregularities, and affiant asserts that the customary glues employed in the bindery of said Independent Press Room, Inc., were tried, but without success;

(7) That affiant interprets the items in said Affidavit, Exhibit A, under the columnar title, "Girls' Handwork," as correctly reflecting the fact that some time was spent by the girl employees of Independent Press Room, Inc., under supervision, on each of the dates, August 3, 4 and 5, 1948; Tuesday, Wednesday and Thursday, respectively, in unsuccessful attempts at finding ways and means of satisfactorily bonding said paper strips to said wooden cores; that on Thursday, August 12, 1948, a fraction of an hour was spent in additional attempts at obtaining a satisfactory bond;

(8) That on Friday, August 13, 1948, additional time in the amount of 1.5 hours was spent in perfecting ways and means of accomplishing the aforesaid task and in commencing the actual work of

bonding said strips to said wooden cores and that on Tuesday, August 17, 1948, the time entry of 3.9 hours indicates to your affiant that the problem had then been solved, as well as it could be solved with a lengthy or continuous strip of paper of the wrap-around type, and that the time spent on that date was adequate to complete the pasting of the said charts to remainder of the 100 plus wooden cores that had been supplied to Independent Press Room, Inc., by said C. Martin Welch;

(9) That upon the completion of the work of said Independent Press Room, Inc., in imprinting, cutting and bonding of said printed gauge strips to said wooden cores, your affiant personally delivered the 100 wooden cores with paper charts adhesively affixed thereto to said C. Martin Welch at his residence in Millbrae;

(10) That is your affiant's recollection that all of the 100 code sticks prepared by said Independent Press Room, Inc., were delivered to said C. Martin Welch at one and the same time and that this occurred after the Girls' Handwork thereon was completed on Tuesday, August 17, 1948, but that if there was a partial delivery of a quantity of the same prior to the final work on August 17, 1948, then the earliest possible date on which a quantity, such as 54 of said coresticks, could have been satisfactorily finished and delivered to Mr. Welch would have been after the work that was done on Friday, August 13, 1948.

/s/ FRANCIS J. BURKE.

Sworn to and subscribed before me this 23rd day of May, 1956.

[Seal]      /s/ LILLIAN PRATHER,  
Notary Public.

My Commission Expires March 24, 1958.

[Endorsed]: Filed May 25, 1956.

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[Title of District Court and Cause.]

AFFIDAVITS OF ELIJAH V. FROST, PAUL  
S. STENSEN, JOHN E. DAVIDSON AND  
EUGENE L. GRINDLE AND MEMORAN-  
DUM OF POINTS AND AUTHORITIES  
IN OPPOSITION TO DEFENDANT'S MO-  
TION TO REOPEN CASE AND FOR  
ORDER REVOKING DISCLAIMER

Affidavit of Elijah V. Frost in Opposition to Defend-  
ant's Motion to Reopen Case and for Order  
Revoking Disclaimer

State of California,  
City and County of San Francisco—ss.

Elijah V. Frost, being duly sworn states:

1. That he is an employee of Pan American World Airways, Inc., at San Francisco International Airport and has been an employee since prior to July of 1948.

2. That in 1948 he held the position of Purchasing Superintendent and that he now holds the posi-

tion of Administrative Assistant to the Supply Manager and that he is very familiar with the operation and the receiving and accounting departments at Pan American.

3. That prior to July, 1948, and for a period of time thereafter the receiving department at Pan Am had three registering machines manufactured by the Standard Register Company of Dayton, Ohio, which were used by the receiving department personnel and that the machines were each in the form of a metal box having a writing table and utilized marginally punched, serially connected forms which were advanced to the writing table by a crank operated sprocket mechanism within the box.

4. That a block of 50 or 100 receiving report numbers was assigned to the receiving clerk by the receiving section to each of the registering machines as needed.

5. That when a shipment was received at Pan Am, one of the receiving clerks would log in the shipment by hand on one of the machines and apply the next unused number assigned to the machine in the appropriate column of the receiving register. A copy of the form of the receiving register used by Pan American is attached hereto as Exhibit 1.

6. That any one of the receiving department personnel were free to use any one of the three machines in logging in any incoming shipment and that no attempt was made by the receiving clerks

to insure that all the receiving report numbers were issued in a numerical sequence.

7. That the receiving register was made up in three copies, and that after the entries had been completed on the register, the original was forwarded to the Invoice Section, the second copy was sent to the typing pool in the Purchasing Section, and the third copy was kept in the machine for the receiving department records.

8. That the typing pool, from the second copy of the receiving report register, typed up individual receiving reports.

9. That the receiving reports typed up for each shipment by the typing pool carried the same number that was assigned the shipment on the receiving register and that the date placed in the upper right-hand corner of the receiving report was the date the shipment was actually entered, and that the date placed in the lower left-hand corner was the date the shipment was accepted or rejected.

10. That a copy of the typed receiving report was filed with the particular purchase order against which it applied.

11. That the purchase order at Pan American was the basic reference and all documents related to the purchase order were filed with it and that such documents included receiving reports, amendments, or other changes to the receiving reports, invoices from the vendor, and pay vouchers to the

vendor for the items received against the purchase order.

12. That after a period of approximately one year, the purchase order and all documents filed therewith were microfilmed and then the purchase order and all the documents were destroyed.

13. That after the receiving report was typed up by the typing pool, one copy was sent to the Invoice Section, one copy was sent to the Purchasing Section, and one copy was sent to the Stores Superintendent.

14. That when the Stores Superintendent received a copy of the receiving report, an entry was made in his Inventory Records to show that they had received the material listed on the receiving report.

15. That the numbers given to the receiving reports served no other purpose than as reference numbers.

/s/ ELIJAH V. FROST.

Subscribed and sworn to before me this 1st day of June, 1956.

[Seal]      /s/ M. ELOISE DANA,  
Notary Public.

My Commission Expires April 9, 1960.



Affidavit of Paul S. Stensen in Opposition to Defendant's Motion to Reopen Case and for Order Revoking Disclaimer

State of California,  
City and County of San Francisco—ss.

Paul S. Stensen, being duly sworn, states:

1. That he is an employee of Pan American World Airways, Inc., at San Francisco International Airport.

2. That he now holds the position of Assistant Manager, Accounting.

3. That several weeks ago a man appeared in the Accounting Department File Room and asked that he be permitted to review some of our records. The file supervisor referred the matter to me and I proceeded to the file room to obtain further details. Upon questioning the purpose of looking at the records, I obtained the impression that he was representing Mr. Grindle in connection with a matter that had been pending for some time and in which I knew Mr. Grindle was interested. With this understanding, I permitted the gentleman to review the records in which he was interested.

/s/ PAUL S. STENSEN.

Subscribed and sworn to before me this 1st day of June, 1956.

[Seal]      /s/ M. ELOISE DANA,  
Notary Public.

My Commission Expires April 9, 1960.



Affidavit of John E. Davidson in Opposition to Defendant's Motion to Reopen Case and for Order Revoking Disclaimer

State of California,  
City of South San Francisco,  
County of San Mateo—ss.

John E. Davidson, being duly sworn, states:

1. That he is a lead clerk in the receiving department of Pan American World Airways, Inc., at San Francisco International Airport.

That he held the position of senior clerk in the receiving department in August, 1948, and is very familiar with the receiving department procedures at Pan Am.

3. That approximately five or six weeks ago a man came to the receiving department and asked for Jack Davidson.

4. That I informed him that I was Jack Davidson.

5. That he then stated that he was told that I was familiar with the receiving department procedures in 1948 to which I replied in the affirmative.

6. That he said his name was Welch and he wanted some information about our receiving methods in 1948.

7. That because he was unescorted and it is very common for PAA people from our Atlantic and

Latin-American Divisions to visit our facilities and ask for similar information, I assumed he was a Pan American employee and, therefore, explained in detail how we handled receipt of materials in 1948.

8. That he made special reference to receiving report numbers and I explained that receiving report numbers were assigned in blocks of 50 or 100 as required to each of three machines that were used to log in materials and that the number next in order on a particular machine was assigned to a shipment as soon as it was received and an appropriate entry made on the receiving register in the machine.

9. That he then left and returned about two weeks later with several photostatic copies of 1948 receiving reports with the names Roper and Sanford in the received by column.

10. That he asked if it were possible for receiving report numbers and dates to differ to the extent that an early receiving report number could have a later date than a receiving report with a later serial number.

11. That it was again explained to him that this was a common occurrence.

12. And that two receiving clerks could be entering shipments on separate receiving machines at the same instant and assigning receiving report numbers that were several hundred numbers apart.

13. That I emphasized very emphatically to him (Welch) that receiving report numbers had no correlation to date whatsoever.

/s/ JOHN E. DAVIDSON.

Subscribed and sworn to before me this 5th day of June, 1956.

[Seal]      /s/ H. J. CREGAN,  
Notary Public.

My Commission Expires January 20, 1959.

Affidavit of Eugene L. Grindle in Opposition to  
Defendant's Motion to Reopen Case and for  
Order to Revoke Disclaimer

State of California,  
City and County of San Francisco—ss.

Eugene L. Grindle, being duly sworn, states:

1. That he is the plaintiff in the above-entitled action.

2. That he has read the affidavit of C. Martin Welch supporting the motion to reopen case and for order revoking disclaimer.

3. That he has read the affidavit of Elijah V. Frost filed concurrently herewith and knows the contents thereof.

4. That he is familiar with the operations of the receiving, supply and accounting departments at Pan American and that the operations of those de-

partments since prior to July, 1948, and for a considerable period of time thereafter was as set forth in the affidavit of Elijah V. Frost.

5. That the numerical sequence of the receiving report numbers has no correlation to the date on which shipments were actually received because of the fact that separate blocks of numbers were assigned to each registering machine and because any one of the machines could be used in receiving a particular shipment.

6. That on August 12, 1948, 54 dipsticks were delivered to Pan Am on purchase order No. 30-17541 by the Plastic Process Company and that on the same day all 54 of the dipsticks were received by Pan Am.

7. That receiving report No. 49986 (Plaintiff's Exhibit 17 and Exhibit A of the Welch affidavit) was typed up upon receipt of the receiving register copy from the receiving department and that the receiving report number used corresponded with the number given the shipment on the receiving register.

8. That after receiving report No. 49986 had been typed up, one copy of the receiving report was sent to the invoice section and was received by them on August 13, 1948, as set forth by the date stamp appearing on the receiving report.

9. That the date stamp appearing on the receiving report No. 49986 corroborates the fact that the

dipsticks were actually received by Pan Am on August 12, 1948.

10. That upon receipt of the dipsticks he was called in to inspect the same and caused seven of the dipsticks to be rejected because the scales were improperly located in the tube.

11. That he caused the dipsticks not rejected to be put into public use immediately as set forth on page 94 of the transcript.

12. That receiving report No. 49700 (Plaintiff's Exhibit 16, Welch affidavit, Exhibit B) was prepared to show that seven of the fuel tank dipsticks received on purchase order 30-17541 were faulty and were rejected because the scales were improperly located in the tube; that the report was prepared on August 19, 1948, as shown in the lower left-hand corner; and that the rejected dipsticks were picked up by the defendant on August 20, 1948, as appears from the hand-written notation on the receiving report.

13. That the receiving report No. 49700 carries a notation that the seven faulty dipsticks were deleted from the receiving report No. 49986 and that this is correct because in receiving report No. 49986 the number "54" is crossed out and the number "47" substituted therefor and a notation placed on the receiving report that seven were rejected.

14. That receiving report No. 49700 bears an invoice section date stamp of August 24, 1948, which substantiates the chronology of events.

15. That he has known of other instances of Pan Am receiving material and entering it as being received on a receiving report on one date and then rejecting it days or weeks later after the responsible person at Pan Am had determined that the material was unsatisfactory and had to be rejected.

16. That the decision to accept or reject material is not necessarily made by someone in the receiving department.

17. That when the seven dipsticks were rejected, a notification was prepared on August 18, 1948 (Welch affidavit, Exhibit C), notifying the stores superintendent that the number of dipsticks received on receiving report No. 49986 was reduced by seven.

18. That the fact that the serial number on the later dated receiving report No. 49700 is smaller than the serial number on the earlier dated receiving report No. 49986 only indicates that the number used on receiving report No. 49700 was taken from a different registering machine than was the number for receiving report No. 49986.

19. That receiving report No. 51133 (Welch affidavit, Exhibit D) shows that 24 fuel tank dipsticks were received on August 23, 1948, against the same purchase order No. 30-17541 and that a copy of the typed receiving report was received in the invoice section on August 25, 1948.

20. That receiving report No. 50135 (Welch affidavit, Exhibit E) shows that 29 fuel tank dipsticks



were received on purchase order No. 30-17541 on August 26, 1948, and bears a notation that this included an overshipment of 7 to cover the 7 returned on receiving report No. 49700.

21. That receiving report Nos. 49999, 50195, 49764 and 49715 (Welch affidavit, Exhibits F, G, H and I) merely show that the receiving report numbers are not assigned in strict chronological order.

22. That shipping order P22361 (Welch affidavit, Exhibit J) indicates that one of the dipsticks delivered by the defendant was shipped on August 19, 1948, to Mr. Del Valle, the PAA resident engineer at the Boeing Aircraft Company in Seattle.

23. That the dipstick was sent to Mr. Del Valle because Mr. Del Valle was in the process of purchasing materials for the new Boeing B-377 airplanes that Pan Am had ordered and was for the purpose of showing him that Pan Am was acquiring dipsticks that were probably better and cheaper than those he could acquire from Boeing Aircraft and that this was not part of the distribution for Pan Am use.

24. That the dipstick was sent on shipping order P22361 within one week of when it was received by Pan American even though there was no rush in sending it to Mr. Del Valle since the new Boeing B-377 airplanes were not expected for at least six months.

25. That many of the dipsticks delivered by the defendant had been placed in public use before the dipstick was sent to Mr. Del Valle.



26. That thereafter Pan American ordered dipsticks from the defendant for the Boeing B-377 airplanes and that the defendant, Mr. Welch, delivered such sticks.

27. That Pan Am maintains confidential micro-filmed records and that the defendant has seen fit, at any time he desired, to inspect these confidential records by conveying to the employees in charge of the records the impression that he was an employee of the company entitled to inspect the records.

28. That he has talked to Mr. Paul S. Stensen and has read the affidavit of Mr. Stensen and finds that the defendant, Mr. Welch, conveyed the impression that he was working with the plaintiff and, therefore, had a right to inspect the microfilmed records at Pan Am.

29. That he has talked to Mr. John E. Davidson and has read his affidavit and finds that defendant discussed with Mr. Davidson the receiving report numbering procedure used at Pan Am and that Mr. Davidson explained to the defendant the fact that the chronology of the receiving report numbers was not correlated with the shipment receiving dates.

30. That in view of the unconscionable conduct of the defendant, Pan Am has issued a memorandum, attached hereto as Exhibit 1, banning the defendant from the Pan Am base in the future unless he secures consent to enter from the named individuals.

31. That he has read the affidavit of Francis J. Burke supporting the motion to reopen the case and for an order revoking the disclaimer and that he has examined Exhibit A attached thereto.

32. That from Exhibit A of the Burke affidavit, it appears that the defendant gave an order to the Independent Press Room for 400 aviation gasoline measuring rods and that the Independent Press Room gave the order its order number 50759 and dated it July 29, 1948.

33. That Exhibit A also indicates that two zinc line engravings and 150 sheets of paper, measuring 24 x 38, were ordered; that 430 impressions were run on August 2, 1948; that one hour of cutting was performed on July 29, 1948, apparently before any impressions were made; that additional cutting was performed on August 3, 1948, and that four and one-half hours of pasting were performed on August 3rd, 4th and 5th of 1948.

34. That during the trial the defendant testified that Butlers Special Delivery Service delivered, on July 26, 1948, to the Independent Press Room, the wood fillers that he had ordered from Schafer's Mill and that he had been billed by Schafer's Mill for the wood fillers and introduced in evidence as defendant's Exhibit Q, the invoice from Schafer's Mill (Tr. pages 452 to 456), attached hereto as Exhibit 2.

35. That he has examined defendant's Exhibit Q and finds that it contains the item, "500 lin. 1 x 1

to pattern," and that during the trial the defendant, Mr. Welch, interpreted this item to mean 500 lineal feet of wood cut to a particular pattern (Tr. page 453, lines 13 to 14).

36. That he interprets this item of defendant's Exhibit Q to mean that the defendant was billed for 500 lengths or pieces of 1 x 1 wood cut to a pattern and bases his contention on the fact that order number 50759 placed with the Independent Press Room was for 400 aviation gasoline measuring rods and that, therefore, at least sufficient wood must have been delivered to the Independent Press Room to fabricate 400 gasoline measuring rods, and that at the present time he is purchasing similar sections at three cents per foot and since each dipstick filler is approximately three feet in length, 500 such lengths would make 1,500 feet which at three cents a foot would make \$45.00, the amount billed by Schafer's Mill.

37. That the defendant's interpretation that the item covered only 500 lineal feet of wood is incorrect because this would only be sufficient wood filler for approximately 166 gasoline measuring rods.

38. That his position is further substantiated by the fact that Independent Press Room, on August 31, 1948, billed the defendant for 400 aviation gasoline measuring rods in an invoice which is attached hereto as Exhibit 3.

39. That it is apparent from Exhibit A of the Burke affidavit that between August 3, 1948, and

August 17, 1948, 400 scales were pasted on wood fillers rather than just 100 as set forth in the Burke affidavit.

40. That there is nothing on Exhibit A of the Burke affidavit to substantiate Mr. Burke's statement in paragraph 7 of his affidavit that the girls were unsuccessful on August 3rd, 4th and 5th of 1948 in pasting scales on wooden fillers and that it would be more reasonable to assume that by August 5, 1948, the girls at the Independent Press Room had completed the first 100 gasoline measuring rods for the order the defendant had from Pan Am and that they were delivered shortly thereafter to the defendant giving him adequate time to complete the dipsticks to make the delivery of the 54 dipsticks on August 12, 1948.

41. That it is also more reasonable to assume that the remaining 300 aviation gasoline measuring rods were completed on August 12th, 13th and 17th and were subsequently delivered to the defendant before August 31, 1948, since he was billed for 400 gasoline measuring rods on August 31, 1948.

42. That there is a conflict in the evidence as to what type of scales were supplied on the dipsticks first delivered by the defendant to Pan Am (see pages 51 to 53 of Plaintiff's Brief); that it certainly is not clear that the single piece scales were supplied on the first dipsticks supplied to Pan American by the defendant; and that even assuming that single piece scales were supplied on the

first dipsticks delivered by the defendant, this would not prevent the scales and the fillers from being improperly located in the plastic tube.

43. That he has discovered nothing which would question the veracity of any of the information contained on the receiving reports Nos. 49986 and 49700.

/s/ EUGENE L. GRINDLE.

Subscribed and sworn to before me this 1st day of June, 1956.

[Seal]      /s/ M. ELOISE DANA,  
Notary Public.

My Commission Expires April 9, 1960.

[Endorsed]: Filed June 5, 1956.

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[Title of District Court and Cause.]

### ORDER

This is a motion by defendant to reopen this case and for an order revoking the disclaimer previously entered by defendant in accordance with 35 U.S.C. 253.

The Court having heard oral argument and having examined the affidavits and briefs submitted by defendant with his motion, and no good cause appearing therefor, the motion to reopen the case is hereby denied, and the motion for an order revoking the disclaimer is likewise denied.

Dated: June 6th, 1956.

/s/ EDWARD P. MURPHY,  
United States District Judge.

[Endorsed]: Filed June 7, 1956.

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[Title of District Court and Cause.]

### MEMORANDUM ORDER

This is a suit for the declaration of invalidity of a patent, No. 2,534,644, and for certain relief incident to the invalidation of that patent, including damages and the assignment of the patent to the claimed true inventor. Jurisdiction arises under 28 U.S.C. 2201.

The patent in question concerns a measuring device to determine the quantity of gasoline in the wing tanks of airplanes, known as a "dipstick." The dipstick is a liquid fuel column gauge, of a type long familiar. A patent issued as long ago as May 26, 1863, to one Hyde (No. 38,681) for a "cask gauge" described the essentials of the gauge as being a tube or cylinder "made of transparent glass, or its equivalent, and left open at either end," enclosed within the center of a square slitted rod "made of wood, metal, gutta-percha, or any other suitable material, so that either end of the rod shall be flush with the ends of the enclosed tube," and with suitable gauging scales marked on the four sides of the enclosing rod, each adapted to a par-



ticular type of cask, so that by observing the level of the fluid in the central measuring tube, the content of the cask or vessel could be ascertained. The operation of the device is the same as that used by children playing with straws. The tube is inserted vertically into the liquid to the bottom of the vessel. The operator then closes the top of the tube, either with his finger, or with some sort of valve, and withdraws the tube. The atmospheric pressure on the lower end of the tube, as it is lifted from the liquid, retains the liquid in the tube (up to its point of specific gravity). Hyde in his 1863 patent said:

“It is evident that the height of the column of liquid thus confined in the tube will indicate the depth of its previous immersion in the body of the fluid, and by comparing this column with a properly graduated scale the quantity of liquid in any given cask or vessel can be accurately ascertained almost at a glance.”

In 1922, another patent was issued to one Schmitt (No. 1,423,156) for essentially the same type of liquid fuel column gauge, differing only in the manner in which the central measuring tube is supported by the outer structure upon which the gradations are marked, and the slits in the outer structure through which the level of the liquid in the measuring tube may be observed.

This was the state of the prior art in liquid fuel column gauges. It is unnecessary to speculate upon



whether the devices described in the Hyde and Schmitt patents were ever sufficiently "inventive" within the meaning of the patent laws to be patentable.

In 1948 the plaintiff in the instant case, Grindle, an engineer employed by Pan American Airways, developed at the request of his employer a dipstick, or liquid fuel column gauge, which would render more satisfactory service than those then in use. Grindle developed, apparently without knowing of the Hyde and Schmitt patents, a stick which consisted essentially of several measuring tubes, rather than one, joined in a single assembly, and made of plastic. He then contacted the defendant, Welch, at that time a representative for a plastics products firm, and handed him detailed drawings and a mock-up sample of the stick he had designed, for the purpose of securing price quotations from the defendant's employer. Defendant's employer returned the plans with the report that the particular shapes of plastic required to accommodate the plaintiff's design would be too costly to manufacture, and sent along several items of standard plastic tubing, called "extrusions," to inquire of plaintiff whether they would be adaptable to his needs. After some experimentation and consideration of various alternative expedients, plaintiff Grindle devised a dipstick incorporating standard plastic extrusion parts. In all essentials, the dipstick, as finally submitted by plaintiff Grindle to defendant Welch and the latter's employer by means of a com-

plete sketch and mock-up sample was the dipstick incorporated ultimately in Patent No. 2,534,644.

At the time of submission of the plans and mock-up of the dipstick to Welch, Grindle had no thought of patenting the stick, and no desire to keep the device secret for purposes of personal commercial exploitation or for any other purpose. He understood that because of the development work done by his employer, Pan American, through himself, the employer would receive a favorable purchase price quotation from the ultimate producer of the stick, whether that producer was to be Welch's employer or Welch himself. There was no disclosure by Grindle to Welch of any confidential nature which could lead to a recompensable breach of trust on the part of Welch.

It appears that during the period of final development of the dipstick, Welch had formed the plan to set himself up in the dipstick manufacturing business. He did so, and commenced to supply dipsticks in conformity with the plans drawn by Grindle. There were two minor variations in the stick as delivered and the stick as designed, and these variations (consisting of the substitution of radial grooves for square cut grooves in the wooden filler which spaced the two plastic measuring tubes inside the over-all square plastic housing tube, and

of the substitution of plastic cement fill for the solid end plugs which Grindle had originally designed to shut off the ends of the square housing tube) were accepted by Grindle for Pan American because they had no appreciable effect on the functioning of the dipstick as designed by Grindle. They were minor details of construction or manufacture, "bugs," that every manufacturer encounters in the construction of his products, and that are eliminated by altering minor details which leave the product as a whole unaffected. The same is true for the protrusion of the tubes beyond the end pieces. Any skilled mechanic, or any person who has had some experience in working with plastics, could have accomplished the substitution of the cement mass for the end plugs, and the radial grooves for the square cut grooves, as well as the protrusion of the tubes beyond the end seals.

Welch commenced production of the sticks and made his first delivery to Pan American on August 12, 1948. That date marked the beginning of public use of the dipstick. Grindle was soon thereafter assigned to other duties and took no further interest in the dipstick. Thereafter, on August 17, 1949, Welch filed for a patent on the dipstick, swearing that he was the true inventor. His patent application contained three claims. Claim 1 was the dipstick as disclosed in Grindle's drawing No. D-32,061,114, published on June 10, 1948. Claims 2 and 3 varied a few minor details of construction as, for example, using end plugs instead of a cement

mass to seal the ends of the plastic housing tube through which the two measuring tubes protruded (the original Grindle drawing had provided for similar end plugs, and was changed to suit the production convenience of Welch), the protrusion of the tubes beyond the end pieces, and adding a nail as an additional means of securing the end plugs. None of the variations of Claims 2 and 3 from Claim 1 were substantial improvements. They were changes of a sort which any mechanic, in or out of the plastics field, might have devised in the course of construction. Essentially, all three claims were the same claim, namely, a claim on the device substantially as pictured in the Grindle drawing of June 10, 1948.

With its customary magnanimity, the Patent Office issued patent No. 2,534,644 to Welch. That patent was void and invalid because not filed by the true inventor; because filed more than one year after the first public use of the product described; because it does not teach invention over the prior art disclosed by the Hyde and Schmitt patents referred to earlier. Each of these grounds of invalidity is sufficient in and of itself to make clear that the patent in question is void and of no effect.

Plaintiff seeks damages for having been prevented from producing his own device, by the threat of the defendant that he would sue plaintiff for patent infringement. In 1953, plaintiff learned that defendant had patented the dipstick and developed its manufacture into a profitable venture.

Not unnaturally, he thereupon decided to do likewise, and to reap the fruits of his own developmental work himself. Defendant thereupon threatened an infringement suit. Plaintiff's proof of damages, however, is insufficient. Only his own testimony as to his putative market is in evidence. Damages, if they were to be awarded here, would be entirely speculative as to both existence and amount. Plaintiff is therefore not entitled to damages.

Plaintiff further seeks an assignment of the invalid patent to himself, and an estoppel of defendant to deny the validity of the patent. In *Kennedy v. Hazleton*, 128 U.S. 667 (1888), the Supreme Court refused to require a defendant to assign a patent which had been issued to someone not the true inventor. Since the patent was void, there was nothing to assign. The Court said:

“As the patent, upon the plaintiff's own showing, conferred no title or right upon the defendant, a court of equity will not order him to assign it to the plaintiff—not only because that would be to decree a conveyance of property in which the defendant has, and can confer, no title; but also because its only possible value or use to the plaintiff would be to enable him to impose upon the public by asserting rights under a void patent. *Post v. March*, 16 Ch. D. 395; *Oldham v. James*, 14 Irish Ch. 81.

“The bill cannot be maintained for an account of profits received by the defendant from



the use of this patent, because a decree for profits can only proceed upon the ground that the plaintiff is at least the equitable owner of the patent, and there can be neither legal nor equitable ownership of a void patent. The same reason is a sufficient answer to the suggestions of the plaintiff that the bill may be maintained as a bill to remove a cloud upon his title in this patent."

Plaintiff has cited a number of cases for the proposition that title to a void, or non-existent, patent may nevertheless be assigned to the true inventor, and the assignor may be estopped thereafter to assert its invalidity. But none of those cases stands for so inherently artificial a proposition. *Zachs v. Aronson*, 49 F. Supp. 696 (D. Conn. 1943) concerned the effect of a prior state judgment in a controversy involving a patent. The federal court held that no grounds for a declaratory judgment action were stated. Regarding the assignability of a void patent, the court said as a matter of dictum that it construed the state judgment "to eliminate the finding that the plaintiff was not the true inventor; it felt that that finding was not essential to the decree." Thus, the court continued, "a direct conflict with the *Kennedy* case is not involved." *Id.* at 698. There was other dictum in the *Zachs* case, regarding the effect which might be given in a federal court to a prior state judgment requiring the assignment of a void patent. That dictum, like the opinion of the Supreme Court in *Bechner v.*



Contoure Laboratories, 279 U.S. 388 (1928), concerns the question of the extent to which the principle of *res judicata* and the interrelationship of federal and state courts require the enforcement of state judgments, although there may be a logical inconsistency in such judgments. These cases arise usually in connection with an assignor's attempt, subsequent to his assignment of a patent, to renege on his assignment and to raise the issue of invalidity. In such circumstances, an estoppel bars the assignor from beclouding the title he has himself purported to confer. See *Westinghouse Co. v. Formica Co.*, 266 U.S. 342, 349 (1924). It should be noted that the decisions in those cases have the effect of preventing the issue of the validity of the patent from being reached by the parties, if the party seeking to raise the issue is the assignor. Cf. *U. S. Appliance Corp. v. Beauty Shop Supply Co., Inc.*, 121 F. 2d 149 (9th Cir., 1941).

In the case at bar, no principle of estoppel bars the plaintiff from raising the issue of invalidity. Indeed, he does no more than invoke a statute of Congress in doing so. However, by the same token, having properly demonstrated the invalidity of the patent, he may not then ignore that invalidity and demand an assignment of the void patent. To follow the plaintiff's theory would be to grant him a patent despite the fact that for five years after its first public use, he made no effort to patent his device; that if he had properly applied for a patent within a year after the first public use of his device,

the patent would have been void for teaching no improvement over prior art; and his grant would be founded on the fact that another had falsely claimed to have been the inventor, although even that claim was made only after the statutory period had elapsed. No result so absurd can be supported by resort to the principles of equitable estoppel.

Although the particular relief sought by the plaintiff is improper, he should not go without some relief to equalize his business opportunity with that of the defendant. Therefore, defendant Welch is enjoined to inform each and every of his past purchases of the dipstick or a substantial equivalent thereof, and each and every person to whom he has offered said dipstick or a substantial equivalent thereof for sale by means of letter of offer, circular, invitation to bid or otherwise, that said dipstick or substantial equivalent thereof is not patented, notwithstanding any previous statement or notation on the sticks or elsewhere to the contrary, and Defendant Welch is further enjoined from continuing to mark any dipsticks or substantial equivalents thereof, or to sell any such dipsticks or substantial equivalents thereof already so marked, with any notation of a patent number or the pendency of a patent, and from advertising, offering, or suggesting in any manner that the dipsticks are patented. Let an appropriate decree, and findings of fact and conclusions of law, if the latter are desired, be prepared by the plaintiff.

I have considered plaintiff's request for counsel

fees and costs, and do not feel that this is a proper case to exercise the power of the court to award such fees and costs. Each party will bear its own costs. It is so ordered.

/s/ EDWARD P. MURPHY,  
U. S. District Judge.

[Endorsed]: Filed October 29, 1956.

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[Title of District Court and Cause.]

## FINDINGS OF FACT AND CONCLUSIONS OF LAW

### Findings of Fact and Conclusions of Law

The above-entitled cause came on for trial and the court having duly considered the evidence and having been duly advised in the premises makes and adopts the following:

### Findings of Fact

1. Plaintiff Eugene L. Gindle is a citizen of the United States and a resident of San Mateo, California.

2. Defendant C. Martin Welch, is a citizen of the United States and a resident of Millbrae, California, and is doing business under the name of C. Martin Welch and Company with a regular and established place of business at San Francisco, California.

3. This is a suit for the declaration of invalidity of patent No. 2,534,644 and for certain relief incident to the invalidation of that patent, including damages and the assignment of the patent to the claimed true inventor.

4. The patent in question concerns a measuring device known as a "dipstick" which is used to determine the quantity of gasoline in the wing tanks of airplanes.

5. The dipstick disclosed in the patent is a liquid fuel column gauge, of a type long familiar.

6. A patent No. 38,681 issued to Hyde on May 26, 1863, for a "cask gauge," which describes the essentials of the gauge as being a tube or cylinder "made of transparent glass, or its equivalent and left open at either end" enclosed within the center of a square slitted rod "made of wood, metal, gutta-percha, or any other suitable material so that either end of the rod shall be flush with the ends of the enclosed tube," and with suitable gauging scales marked on the four sides of the enclosing rod, each adapted to a particular type of cask, so that by observing the level of fluid in the central measuring tube, the content of the cask or vessel can be ascertained.

7. The operation of the Hyde device is the same as that used by children playing with straws. The tube is inserted vertically into the liquid to the bottom of the vessel. The operator then closes the top of the tube, either with his finger or with some sort

of valve and withdraws the tube. The atmospheric pressure on the lower end of the tube, as it is lifted from the liquid, retains the liquid in the tube (up to its point of specific gravity).

8. Hyde, in his 1863 patent stated:

“It is evident that the height of the column of liquid thus confined in the tube will indicate the depth of its previous immersion in the body of the fluid, and by comparing this column with a properly graduated scale the quantity of liquid in any given cask or vessel can be accurately ascertained almost at a glance.”

9. A patent, No. 1,423,156, was issued to Schmitt in 1922 for essentially the same type of liquid fuel column gauge as that of Hyde's, differing only in the manner in which the central measuring tube is supported by the outer structure upon which the graduations are marked, and the slits in the outer structure through which the level of the liquid in the measuring tube may be observed.

10. The Hyde and Schmitt patents show the state of the prior art in liquid fuel column gauges.

11. In the first part of 1948, plaintiff, as an engineer employed by Pan American World Airways, Inc., developed, at the request of his employer, a dipstick or liquid fuel column gauge which would render more satisfactory service than those then in use.

12. The dipstick developed by plaintiff consisted primarily of several measuring tubes, rather than



one, formed in plastic which surrounded paper scales mounted on a wooden filler.

13. (No finding—original finding deleted.)

14. After making up a mock-up sample of the dipstick he had designed together with a detail drawing, plaintiff contacted the defendant, Welch, at that time a representative for Plastic Process Company, Inc.

15. Plaintiff handed the defendant a copy of the detail drawing and this, together with the mock-up sample made by plaintiff, were sent to defendant's employer for securing price quotations.

16. Defendant's employer gave a report that the particular extrusion required to accommodate plaintiff's design would be costly to manufacture and sent along several pieces of standard plastic extrusions to inquire of plaintiff whether they would be adaptable to his needs.

17. After receiving the standard plastic extrusions, plaintiff redesigned his dipstick to incorporate the use of such standard plastic extrusions, and had drawing D-32.061.114 made up showing the same.

18. A copy of drawing D-32.061.114 was then submitted to the defendant.

19. In all essentials, the dipstick as finally submitted by Plaintiff Grindle to Defendant Welch, was the dipstick which is shown in patent No. 2,534,644.



20. At the time of the submission of the mock-up models and drawings of the dipstick to the defendant, plaintiff had no thought of patenting the dipstick and had no desire to keep the dipstick secret for purposes of personal commercial exploitation or for any other purpose. The disclosure by plaintiff of the dipstick he had developed to defendant was not in trust and confidence.

21. Plaintiff understood that because of the development work done by his employer, Pan American, through himself, his employer would receive a favorable purchase price quotation from the ultimate producer of the dipstick, whether that producer was to be Welch's employer or Welch himself.

22. During the period of the final development of the dipstick, Welch formed the plan to set himself up in the dipstick manufacturing business.

23. Defendant requested permission to quote on the dipsticks and after receiving permission from the plaintiff and thereafter an order from plaintiff's employer, commenced to supply dipsticks to plaintiff's employer in conformity with the plans supplied by the plaintiff.

24. The first dipsticks delivered by defendant to Pan American differed slightly from plaintiff's design in that radial grooves were substituted for square cut grooves in the wooden filler and in that a plastic cement fill was substituted for solid end plugs.

25. Since the changes did not affect the proper functioning of the dipsticks, plaintiff accepted the dipsticks for Pan American.

26. The changes made by defendant were minor details of construction or manufacture, "bugs" that every manufacturer encounters in the construction of his products, and that are eliminated by altering minor details which leave the product as a whole unaffected.

27. Any skilled mechanic or any person who has had some experience in working with plastics, could have accomplished the substitution of the cement mass for the end plugs and the substitution of radial grooves for square cut grooves in the wooden filler.

28. Defendant made his first delivery of dipsticks to Pan American on August 12, 1948, and plaintiff caused the dipsticks to be placed in public use on the same day.

29. Soon after August 12, 1948, plaintiff was assigned to other duties at Pan American which had no connection with Pan American's dipstick program.

30. Thereafter, on August 17, 1949, defendant filed a patent application on the dipstick designed by plaintiff and swore that he was the true inventor of the dipstick disclosed in the application.

31. On December 19, 1950, patent No. 2,534,644 was granted to defendant on the basis of the patent application and contained three claims.

32. Claim 1 of the patent reads directly on the dipstick disclosed in plaintiff's drawing D-32.061.114 published on June 10, 1948.

33. Claims 2 and 3 of the patent vary from Claim 1 in a few minor details of construction as, for example, using laminated end plugs (drawing D-32.061.114 called for solid end plugs), the protrusion of the tubes beyond the end plugs and adding a nail as an additional means of securing the end plugs.

34. None of these variations set forth in Claims 2 and 3 are substantial improvements over Claim 1 because they were changes of a sort which any mechanic in or out of the plastics field might have devised in the course of construction.

35. Essentially all three claims of the patent are the same claim, namely a claim on the dipstick substantantially as shown in plaintiff's drawing D-32.061.114

36. Plaintiff did not discover until September 28, 1953, that the defendant had patented the dipstick which plaintiff had disclosed to the defendant and that the defendant had developed the manufacture of the dipsticks into a profitable venture.

37. Plaintiff thereupon decided to also enter into the manufacture and sale of dipsticks to reap the fruits of his own developmental work.

38. Defendant thereupon threatened an infringement suit.

39. Plaintiff seeks an assignment of the invalid patent to himself, and an estoppel of defendant to deny the validity of the patent.

### Conclusions of Law

1. The court has jurisdiction of the parties and the subject matter under 28 U. S. C. 2201.

2. A justiciable controversy exists between the parties.

3. The court has ancillary jurisdiction over the non-federal questions relating to the assignment of the patent and damages.

4. There was no disclosure by Grindle to Welch of any confidential nature which could lead to a recompensable breach of trust on the part of Welch.

5. Patent No. 2,534,644 is void because the application was not filed by the true inventor.

6. Patent No. 2,534,644 is void because the dipstick disclosed in the patent was in public use for more than one year before the application was filed.

7. Patent No. 2,534,644 is void because the dipstick disclosed in the patent was published in drawing D-32.061.114 more than one year before the patent application was filed.

8. Each of three claims of Patent No. 2,534,644 is invalid because it fails to define invention over the prior art, particularly Hyde and Schmitt.

9. Plaintiff's proof of damages is insufficient because only his own testimony as to his putative market is in evidence.

10. Plaintiff is not entitled to damages because they would be entirely speculative as to both existence and amount.

11. Plaintiff is not entitled to an assignment of the invalid and void patent.

12. Defendant, Welch, is enjoined to inform each and every of his past purchasers of the dipstick or a substantial equivalent thereof, and each and every person to whom he has offered said dipstick or a substantial equivalent thereof for sale by means of a letter of offer, circular, invitation to bid or otherwise, that said dipstick or substantial equivalent thereof is not patented, notwithstanding any previous statement or notation on the sticks or elsewhere to the contrary, and defendant, Welch, is further enjoined from continuing to mark any dipstick or substantial equivalent thereof, or to sell any such dipstick or a substantial equivalent thereof already so marked with any notation of a patent number or the pendency of a patent, and from advertising, offering or suggesting in any manner that the dipsticks are patented.

13. Plaintiff's request for counsel fees and costs is denied.

14. Each party will bear its own costs.

Done in open court this 3rd day of January, 1957.

/s/ EDWARD P. MURPHY,  
U. S. District Judge.

Approved as to form:

NAYLOR and NEAL,  
JAMES M. NAYLOR,  
FRANK M. NEAL,

By /s/ JAS. M. NAYLOR,  
Attorneys for Defendant.

Lodged December 27, 1956.

[Endorsed]: Filed January 3, 1957.

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In the United States District Court, Northern  
District of California, Southern Division

Civil Action No. 34531

EUGENE L. GRINDLE,

Plaintiff,

vs.

C. MARTIN WELCH, Doing Business as C. Martin  
Welch & Company,

Defendant.

### JUDGMENT AND DECREE

This cause having come on for trial in open court and having been heard upon plaintiff's amended complaint, and defendant's answer and other pleadings, proofs and proceedings herein, including oral



argument of counsel and briefs of the respective parties and the court having considered the same and the testimony of the witnesses,

It Is Hereby Ordered, Adjudged and Decreed:

1. That patent No. 2,534,644 is void and invalid as to all three of its claims;

2. That the defendant, Welch, is enjoined and directed to inform each and every of his past purchasers of the dipstick or a substantial equivalent thereof, and each and every person to whom he has offered said dipstick or a substantial equivalent thereof for sale, by means of a letter of offer, circular, invitation to bid or otherwise, that said dipstick or substantial equivalent thereof is not patented, notwithstanding any previous statement or notation on the sticks or elsewhere to the contrary;

3. That the defendant, Welch, is enjoined and directed to inform said purchasers and said persons by a written notice first submitted to the court for approval together with a list of said purchasers and persons, said list not to be disclosed to Plaintiff;

4. That defendant, Welch, his heirs, assigns and successors are permanently enjoined from marking any dipsticks or substantial equivalents thereof, or selling any such dipsticks or substantial equivalents thereof already so marked, with any notation of a patent number or the pendency of a patent, and from advertising, offering, or suggesting in any manner that the dipsticks are patented;

5. That each party will bear its own costs.

Dated this 3rd day of January, 1957.

/s/ EDWARD P. MURPHY,  
U. S. District Judge.

Not approved as to form: Modifications to be submitted within five (5) days pursuant to Local Rule 21.

NAYLOR AND NEAL,  
JAMES M. NAYLOR,  
FRANK M. NEAL,

By /s/ JAS. M. NAYLOR,  
Attorneys for Defendant.

Lodged November 13, 1956.

[Endorsed]: Filed January 3, 1957.

Entered January 4, 1957.

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[Title of District Court and Cause.]

#### NOTICE OF APPEAL

Notice is hereby given that C. Martin Welch, defendant above named, hereby appeals to the United States Court of Appeals for the Ninth Circuit from the final judgment entered in this action on January 4, 1957.

NAYLOR & NEAL,  
JAS. M. NAYLOR,  
FRANK A. NEAL,

By /s/ FRANK A. NEAL,  
Attorneys for Defendant.

[Endorsed]: Filed February 4, 1957.

[Title of District Court and Cause.]

### COST BOND ON APPEAL

Whereas, the Defendant in the above-entitled action is about to appeal to the United States Court of Appeals for the Ninth Circuit, from a judgment, entered against him in said action, in said District Court of the United States, Northern District of California, Southern Division, in favor of the Plaintiff in said action.

Now, Therefore, in consideration of the premises, and of such appeal, the undersigned American Surety Company of New York, a corporation duly organized and existing under the laws of the State of New York, and duly authorized to transact a general surety business in the State of California, does undertake and promise on the part of the defendant that the said defendant will pay all costs which may be awarded against him on the appeal, or on a dismissal thereof, not exceeding the sum of Two Hundred Fifty (\$250.00) Dollars, to which it acknowledges itself bound.

In case of a breach of any condition hereof, the above-mentioned Court may, upon notice to said American Surety Company of New York, surety hereunder, of not less than ten days, proceed summarily in the above-entitled action or proceeding to ascertain the amount which said surety is bound to pay on account of such breach, and under judgment therefore against said surey and award execution therefor.

In Witness Whereof, the corporate seal and name of said Surety company is hereto affixed and attested at San Francisco, California, by its duly authorized officers, this 30th day of January, 1957.

[Seal]

AMERICAN SURETY  
COMPANY OF NEW YORK,

By /s/ F. E. BUCKINGHAM,  
Res. Vice-President.

Attest:

/s/ E. C. SCHOLZ,  
Res. Asst. Secretary.

Bond No. 35-570-067

Premium \$10.00 per annum

State of California,  
City and County of San Francisco—ss.

On this 30th day of January in the year one thousand nine hundred and fifty-seven before me Shirley M. Conrad, Notary Public in and for said City and County, State aforesaid, residing therein, duly commissioned and sworn, personally appeared F. E. Buckingham and E. C. Scholz, known to me to be the Resident Vice-President and Resident Assistant Secretary, respectively, of the American Surety Company of New York, the corporation described in and that executed the within and foregoing instrument, and known to me to be the persons who executed the said instrument on behalf of the said

corporation, and they both duly acknowledged to me that such corporation executed the same.

In Witness Whereof, I have hereunto set my hand and affixed my official seal, at my office, in the said City and County of San Francisco, the day and year in this certificate first above written.

[Seal]     /s/ SHIRLEY M. CONRAD,  
Notary Public in and for the City and County of  
San Francisco, State of California.

My Commission expires February 23, 1958.

[Endorsed]: Filed February 4, 1957.

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[Title of District Court and Cause.]

### NOTICE OF APPEAL

Notice is hereby given that Eugene L. Grindle, plaintiff above named, hereby appeals to the United States Court of Appeals for the Ninth Circuit from the final judgment entered in this action on January 4, 1957.

FLEHR and SWAIN,  
PAUL D. FLEHR,  
JOHN F. SWAIN,  
HAROLD C. HOHBACH,

/s/ HAROLD C. HOHBACH,  
Attorneys for Appellant.

[Endorsed]: Filed February 4, 1957.

[Title of District Court and Cause.]

### COST BOND ON APPEAL

Whereas, Eugene L. Grindle, Plaintiff herein, have prosecuted or are about to prosecute an appeal to the United States Court of Appeals for the Ninth Circuit from a judgment made and entered . . . . ., 195 . . . ., by the District Court of the United States for the Northern District of California, Southern Division.

Now, Therefore, in consideration of the premises, the undersigned, Fidelity and Deposit Company of Maryland, a Corporation duly organized and existing under the laws of the State of Maryland and duly authorized and licensed by the laws of the State of California to do a general surety business in the State of California, does hereby undertake and promise on the part of Eugene L. Grindle, Appellant, that they will prosecute their appeal to effect and answer all costs if they fail to make good their appeal, not exceeding the sum of Two Hundred Fifty and no/100 Dollars (\$250.00), to which amount said Fidelity and Deposit Company of Maryland acknowledges itself justly bound.

And further, it is expressly understood and agreed that in case of a breach of any condition of the above obligation, the Court in the above-entitled matter may, upon notice to the Fidelity and Deposit Company of Maryland, of not less than ten (10) days, proceed summarily in the action or suit in which the same was given to ascertain the amount



which said Surety is bound to pay on account of such breach, and render judgment therefore against it and award execution therefor.

Signed, Sealed and Dated this 4th day of February, 1957.

[Seal]

FIDELITY AND DEPOSIT  
COMPANY OF MARYLAND;

By /s/ [Indistinguishable],  
Attorney-in-Fact.

State of California,  
City and County of San Francisco—ss.

On this 4th day of February, 1957, before me Belle Jordan, a Notary Public, in and for the City and County and State aforesaid, duly commissioned and sworn, personally appeared Erbon Delventrar, known to me to be the person whose name is subscribed to the foregoing instrument as the Attorney-in-Fact of the Fidelity and Deposit Company of Maryland, and acknowledged to me that he subscribed the name of Fidelity and Deposit Company of Maryland, and acknowledged to me that he subscribed the name of Fidelity and Deposit Company of Maryland thereto as Principal and his own name as Attorney-in-Fact.

[Seal]     /s/ BELLE JORDAN,  
Notary Public in and for the State of California,  
City and County of San Francisco.

My Commission Expires November 8, 1960.

[Endorsed]: Filed February 4, 1957.

In the United States District Court for the  
Northern District of California, Southern Division

No. 34531

EUGENE L. GRINDLE,

Plaintiff,

vs.

C. MARTIN WELCH,

Defendant.

Before: Hon. Edward P. Murphy, Judge.

REPORTER'S TRANSCRIPT

WEDNESDAY, FEBRUARY 8, 1956.

Appearances:

For the Plaintiff:

FLEHR & SWAIN, by  
JOHN F. SWAIN, ESQ., and  
HAROLD C. HOHBACH, ESQ.

For the Defendant:

NAYLOR & NEAL, by  
JAMES M. NAYLOR, ESQ.

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## EUGENE L. GRINDLE

the Plaintiff, called as a witness in his own behalf, sworn.

The Clerk: Please state your name and occupation for the record.

A. Eugene L. Grindle, 1062 South Claremont Street, San Mateo.

## Direct Examination

By Mr. Hohbach:

Q. Mr. Grindle, are you the plaintiff in this action? A. Yes, I am.

Q. By whom are you employed?

A. Pan-American World Airways.

Q. What is your present position?

A. I am at the present time technical assistant to the chief flight engineer.

Q. Will you give us a brief outline of your background? [28]

A. Yes. I studied a four-year technical course in high school, which consisted of three years of mechanical drawing and various shops and technical courses. And when I got out of high school I went to work for my father who had just started a company called The Gaskill Corporation, primarily engaged in the design of pulverized fuel, heating and air conditioning equipment.

My father had been an inventor most of his life, had many patents, and was working on a new concept of domestic heating equipment. I worked with him for five years, and I was responsible

(Testimony of Eugene L. Grindle.)

personally for several designs that were patented by that company.

Q. Did you continue your education during that time?

A. During that five years I worked for my father I studied and received a degree in mechanical engineering from International Correspondence School. I then, in early 1939, my father's company was in very dire straits and not doing too well, and I left his employ and went to California and went to work for North American Aviation Company as a draftsman and junior engineer.

And I immediately enrolled in extension courses at Cal Tech, and studied aeronautical stress analysis, lofting and layout and completed those courses at Cal Tech.

After a year's time at North American I was—I had achieved the rating of junior design engineer, at which [29] time I was approached and offered a position with Curtiss-Wright Company in St. Louis at a considerable increase in responsibility and income.

And I discussed that with my employer, North American, my superior, and he suggested that it would be good experience for me, so I went to Curtiss-Wright on a year's contract as a design engineer.

After that year I returned to North American Aviation early in 1941, came back as a senior design engineer at North American and was immediately

(Testimony of Eugene L. Grindle.)

given charge of the armament project on the B-25 Mitchell Bomber.

Q. Did you have any people working under you at that time?

A. I had a group of six design engineers working under me at that time. And I worked on that project until the war started, at which time North American, the day after December 7th, sent me on an assignment to the air force to activate all their armament equipment on the B-25's, because they were immediately starting to carry live bombs and ammunition which they had not been doing previously. And I stayed on that assignment for several months on the East Coast working with the Air Force getting their equipment in condition, and worked into all aspects of the aircraft during that time.

In April, 1942, I was sent to England, attached to the Royal Air Force in charge of the Mitchell Bomber project [30] over there. And was immediately engaged in certain design problems to adapt British armament and things to the airplane and instruct them in the operation and maintenance of the aircraft.

After a couple of months I was reassigned to the Mustang fighter project in England to assist Rolls Royce in designing the Rolls Royce engine in the Mustang which we completed and flew the airplane there.

And I was then reassigned to the United States to incorporate the Packard-built Merlin into the

(Testimony of Eugene L. Grindle.)

airplane, and I returned shortly after that project to the United States, and on my trip back to California I met a man from Lockheed Aircraft Company who had heard about me and my work, and he offered me a very responsible job with the Lockheed Company. I accepted that job, resigned from North American, and after a few months of training with Lockheed I was assigned to the Pacific Area as Lockheed representative in charge of all Lockheed technicians in the Pacific, where I stayed until some time in 1945. I was brought back.

And the war seemed to be coming to an end, or at least the Lockheed Company was concentrating now on the development of their Constellation Transport Airplane. So I was called back and sent to Europe to head up the Constellation project there, working again with the Air Force. And I was in Paris when the war ended in Japan. [31]

I was brought back then and immediately assigned to Air France as resident engineer with them to work with them on the purchase of their Lockheed Constellations.

I worked with the design group at Lockheed in adapting and redesigning certain things that we had had experience with in the air force operation. And actually, before I was ever—I ever left for Paris, the Lockheed Company reassigned me to Pan-American World Airways, who had placed a large order for Constellation equipment, and I was sent to San Francisco as the resident engineer



(Testimony of Eugene L. Grindle.)

for Lockheed assigned to Pan-American, where I stayed until the Constellation aircraft on the Pacific Coast were all transferred to New York, and I went with them to New York, stayed there for several months, and came back to Lockheed to be prepared for an assignment in Australia for three years.

And I had been traveling so much by this time that I wanted to stay in the States, and I had been so happy and enjoyed the work with Pan-American in San Francisco that I resigned Lockheed and came up here and went to work with Pan-American. That was in the first of December, 1947.

Q. Could you give us some specific examples of some of your design work prior to this time?

A. Yes. The first thing I can recall is in this pulverized fuel equipment for my father, I designed a feeder for the [32] pulverized fuel hopper which was the first successful device in continually feeding pulverized fuel out of a tank without clogging or tunneling or anything like that.

I also at that time designed an improvement to a combustion blower which was more efficient than the previous burners that were being used.

At North American I designed and they patented in my name an automatic collapsible entrance door that was used in the Mitchell Bombers.

And in the last five or six years I have invented a vacuum cleaner which is a completely new and novel device.

I have invented and applied for patents on an

(Testimony of Eugene L. Grindle.)

aircraft vibrometer for measuring and troubleshooting vibration in airplanes.

Q. Could you tell us at what time you started to work with Pan-American?

A. I started on December 1st, 1947.

Q. What kind of a job did you have with Pan-American?

A. I was hired as a senior aeronautical engineer.

Q. Could you briefly describe some of your duties while you had that job?

A. Yes; I worked in what they called the air frame group which was responsible for the basic aircraft structure and systems, such as the fuel system, the hydraulic system and parts of the electrical system. My job was to handle all [33] service troubles and problems that arose on the systems to which I was assigned.

Q. Do you remember any specific project which you were assigned to?

A. Yes; shortly after I started, just a matter of a month or two months after I started with Pan-American, I was assigned a project of developing a more satisfactory fuel tank dipstick. This was done at the initiation of the flight engineer group at Pan-American, the reason being that they had difficulty with wooden sticks in chipping and clogging valves, and the fact that the sticks broke quite easily, and mainly that the calibration on the sticks was in question.

Q. What were your first steps in developing a new type dipstick?

(Testimony of Eugene L. Grindle.)

A. The first step was to recalibrate the tanks on the airplane to get a correct calibration. We did this under controlled tests on one DC-4 aircraft, and then substantiated our calibration on two other aircraft.

Once this new calibration was arrived at I set out to design a stick that would solve the problems that we had had with the wooden ones and also be more easy to read and a more accurate stick than we had had.

Q. What did you do? Can you relate specifically the sequence of events?

A. Well, one of the first things that I arrived at was [34] that the stick should be made out of plastic because the wooden stick had given so much trouble. Metal sticks had been used in the past and had also been giving trouble and also cost quite a bit. So I had seen other types of plastic sticks used in the past and plastic seemed to be the best material to use for this new one.

I then bought certain sections of plastic and made several different types from the plastic that I had bought, one of which had slight shallow holes drilled in the sides along with the calibration. You stick it in the tank and those holes would fill up with fuel so you can read the level. That was considered rather poor design because you always had to assure that you shook the fuel out of those holes before you could use it again, and it would have also been costly to drill or mold all those holes in it.

(Testimony of Eugene L. Grindle.)

I then devised the idea of a liquid column type of stick and I drew several sections of plastic out of stock to determine what size fluid column could be supported by a vacuum. This was arrived at by physically testing various sizes of tubing. It was determined with the fuel, the specific gravity of fuel that we were using, that you had to use a tube 3/16ths diameter or smaller in order to support the fluid.

My next step was to take another piece of this square extrusion that I had purchased to our development shop [35] and have them bore a 3/16ths hole through the entire length of that tube, and I bought some special type to hot press calibrations on the faces of the square tube. This stick served the purpose very well, but it was considered that it might be expensive, and I had already thought of this idea of enclosing a paper calibration inside of a plastic tube.

Q. Before you go on, is this a sample that was first constructed by drilling a hole longitudinally through a plastic extrusion?

A. Yes, it is.

Mr. Naylor: May I see that before the witness testifies, please, Mr. Hohbach?

Mr. Hohbach: Certainly.

Mr. Naylor: Thank you.

Q. (By Mr. Hohbach): Is this the stick about which you were testifying?

A. Yes, it is. This particular stick was just to be a sample to see if the idea was practical or

(Testimony of Eugene L. Grindle.)

workable. As you can probably see, it was a very difficult job to bore that hole through there and our foreman of our development shop did it himself with a rifle bore. The idea of this stick and its concept was if it were decided upon it would be extruded.

Q. Did you actually test this stick and see that it [36] operated?

A. Yes, indeed. This stick was tested by inserting in the tank and letting it fill up with fluid and holding your finger over it so you could read the fluid level in the tank.

Q. Why do you have graduations on each side of the stick?

A. Well, on the particular airplane that we were designing this for there are four different capacity tanks on the airplane so with a four-sided stick you could accommodate all four of the tanks.

There are two tanks on each side—actually there are eight tanks on the airplane, but one calibration applies to a tank equilaterally on each side of the airplane.

Q. You mean there are two tanks on each plane that have the same capacity; is that correct?

A. That is correct.

Mr. Hohbach: I would like to offer this in evidence as Plaintiff's Exhibit 3.

(Airplane stick marked Plaintiff's Exhibit 3 and received in evidence.)



(Testimony of Eugene L. Grindle.)

Q. (By Mr. Hohbach): After you had made up Plaintiff's Exhibit 3, what did you do after that?

A. Well, I had by this time conceived the idea of printing the calibration, which would be a very cheap method of reproducing the calibration for the number of sticks that [37] we wanted to use, and enclosing that calibration inside of a plastic housing to protect it from wetting.

And I went to our equipment shop, who did our plastic work at that time, and to the master mechanic that was most adept at plastic work, and I myself had taken a piece of  $\frac{3}{8}$ ths inch square wooden section 3 feet long, drew up a calibration and made an ozalid print, which is a sort of a blueprinting process, and cemented that paper to the wooden section that I had made, and brought that assembly down to Mr. Herb Montoya, the master mechanic, and gave him sketches as to how I wanted him to enclose that calibration in plastic.

The first sketches and thoughts on the matter were to have the fluid columns in the corners so that you wouldn't have to look through the fluid to read the calibration. This was a very difficult thing for Mr. Montoya to make, and he tried for several days to accomplish what I wanted and explained the difficulty to me that he was having, and I then changed the sketch slightly and had the——

Q. Before you go on with that, could you make a sketch of this sample that Mr. Montoya had constructed as well as you recall from your memory?



(Testimony of Eugene L. Grindle.)

A. Yes, I could.

Mr. Hohbach: I will ask the witness to make the sketch of the model that was made by Mr. Montoya. [38]

A. May I use your table, Your Honor?

It started with a piece of  $\frac{3}{8}$ ths inch square tubing around which I cemented the calibration.

Mr. Naylor: May I step up and watch this, Your Honor?

The Witness: After the paper was cemented on there, I then had Mr. Montoya make up sections of plastic  $1/16$ th of an inch thick around this thing—a piece like that.

Now the plastic is enclosed except for the ends—the wood is enclosed except for the ends by plastic; the plastic is cemented at all these joints.

Q. (By Mr. Hohbach): Mr. Grindle, while you are sketching this, could you label each one of the pieces, what they are, so it will be clear?

A. This is the paper calibration. Now the object was to have a fluid column in the corner of each of these—each corner of this assembly, and that would be accomplished by putting a solid piece of plastic in the middle of each square piece.

Q. How thick were these pieces of plastic you were putting on?

A. All the plastic used in this entire assembly was  $1/16$ th inch thick. The object then was to put a piece of plastic again on the outside of this assembly and you would have a complete stick.

(Testimony of Eugene L. Grindle.)

Now with this area right in here a fluid column in [39] each corner.

Q. Would you label that again, Mr. Grindle?

A. I note that typical for all four corners.

Q. Would you label the plastic portion?

A. This portion in here was plastic, 1/16th inch thick. This portion here was exactly the same and the external portion of plastic was 1/16th inch thick.

Q. Referring to the plastic, what kind of construction is that?

A. It is what would be termed laminated plastic construction with all the joints cemented together with a suitable solvent. At the end of this plug now in order that when it was dipped into the fuel to seal the wooden filler and keep the paper calibration from getting wet, a square sixteenth inch piece of plastic was molded or cemented into each end.

I could best draw that by cross section here. There was a sixteenth inch plastic end plug in each end. [40]

Q. What was the purpose of that end plug?

A. To seal the wooden filler and the paper calibration from getting wet when we dip it in the fuel.

Q. Actually you built the body of this portion by building it from 1/16th inch sheets of plastic?

A. That is correct.

Q. And you made a laminated type of construction?

A. Yes.

(Testimony of Eugene L. Grindle.)

Mr. Hohbach: I offer this in evidence as Plaintiff's Exhibit 4.

The Court: It will be received.

The Clerk: Plaintiff's Exhibit 4.

The Witness: And because of those fluid columns in the corner it was difficult for Mr. Montoya to get it sealed properly because there wasn't any support in those corners. So I made a very slight change to the design then to put the fluid column over in the center of the flat space of each of the four sides.

(Sketch marked Plaintiff's Exhibit No. 4 and received in evidence.)

Q. (By Mr. Hohbach): Did you tell Mr. Montoya to do this?      A. Yes, I did.

Q. What did he do?

A. Mr. Montoya then constructed the stick in that manner and was successful in producing a working model. [41]

Q. Is this an example of the stick constructed by Mr. Montoya?

A. That is a replica of the stick that he was successful in completing.

Q. Will you describe that stick?

A. Well, this stick consists of  $\frac{3}{8}$ ths inch wooden core with calibration—paper calibration cemented to it, and enclosed completely in plastic, including sixteenth inch end plugs and with a fluid column in the center of each of the four flat faces. The idea being that as it was inserted in the tank and fluid filled up in the column you would place your finger

(Testimony of Eugene L. Grindle.)

over it and you would read right through directly the fluid column at the proper level.

Q. How did you build up the plastic portion of this dipstick?

A. This particular one?

Q. Yes.

A. It was laminated, cut up into strips of the right size and then cemented together.

Q. Is that the way Mr. Montoya constructed the original example?

A. This one was constructed exactly the same as the original.

Q. Did you try to follow the same steps in getting this constructed by Mr. Montoya?

A. I did. I retraced my steps as accurately as possible, [42] I believe to the letter, if my memory served me that well, by actually making up the wooden core myself and printing a copy of the calibration and cementing it on the wood and handing Mr. Montoya the wooden core and sketching for him what I wanted him to do.

Q. He made up the sample for you?

A. This sample here was made by a mechanic in Mr. Montoya's shop. Now Mr. Montoya is foreman of the shop—the plastics shop. It was made by one of his mechanics under Mr. Montoya's supervision. That was the stick then that was more or less decided upon, so I then went back and designed a plastic extrusion to embody the details of this sample.

(Testimony of Eugene L. Grindle.)

Q. Why did you think—why did you go to the work of designing a plastic extrusion?

A. Well, to produce a thing of this kind in the laminated form would be very costly and very time consuming, and an extrusion process is much more adaptable to production methods. We have made numerous extrusions—I have designed numerous extrusions myself in the aircraft industry, both with North American and since being with Pan-American.

Q. You were actually satisfied, though, that this dipstick you had made by Mr. Mitchell would work and you were ready to go on and try to get somebody to produce it?

A. We were satisfied to the extent that this was the type of stick that we wanted. The question of durability, the [43] amount of handling and mis-handling that the stick would take which was still in question and could not be evaluated until a production model was available.

Q. Who made up this sketch that you were talking about?

A. The sketch of the extrusion I drew myself.

Q. Could you describe what you showed on that sketch?

A. Yes. It was a one-piece section of tubing with the essential dimensions of this sample, and I asked for lengths in 12 foot lengths, which was sort of a standard length for extrusions. That was probably the cheapest length to purchase and handle.

(Testimony of Eugene L. Grindle.)

Mr. Hohbach: Your Honor, I would like to introduce that as an exhibit, Plaintiff's Exhibit 5, as an example of the original construction of the dipstick made by Mr. Montoya.

Mr. Naylor: I suppose this goes to weight, Your Honor, but it has been admitted here that this was a replica device made eight years after the event, calling on the man's memory alone.

The Court: I will receive it in evidence.

The Witness: The reason I reconstructed——

The Court: These four little holes here, that is where the fuel goes?

A. That is where the marking goes.

(Working sample of dipstick marked Plaintiff's Exhibit [44] 5 and received in evidence.)

Q. There is one little hole or aperture there for each tank? A. That is correct.

Q. One is for the number one and number four main tanks you have designated here?

A. That's right.

Q. The other for number one and four tank——

A. Auxiliary.

Q. Auxiliary tanks?

A. Yes.

Q. Now this plug which is here at the end, is that wood?

A. No, that is plastic, Your Honor. That is clear plastic; it is like the rest of it. It is actually a sixteenth inch strip, the same thickness as these other pieces.



(Testimony of Eugene L. Grindle.)

The reason I produced this replica was because the original sample was never returned from the Plastic Process Company in Los Angeles, and it was my understanding from Mr. Welch that it may have been lost in the fire in Los Angeles.

Q. (By Mr. Hohbach): Is this the copy of the drawing that you made?

A. This is an ozalid print of the drawing I made. It calls for this plastic extrusion in 12 foot lengths made from clear lucite or equivalent. And also, Your Honor, that embodies the same details as that sample. [45]

Mr. Hohbach: You may have that copy, Your Honor. I have another copy for Mr. Grindle,

Q. I notice the number 144 on the sketch. What did you intend to convey by that?

A. That calls for 144 inch length, or 12 foot lengths of extrusion.

Q. Would you describe in detail what you show in the cross-sectional view?

A. Yes, the cross-section shows a plastic extrusion here, or proposed plastic extrusion with a  $\frac{3}{8}$ ths inch square core which would receive the wooden core with the calibration on it, and in the center of each flat face is a fluid column. The dimensions are a sixteenth of an inch by three-sixteenths long. The idea would be to buy the extrusion. We were intending to insert the calibration and seal the ends in our own shop.

Q. What number does the drawing carry?

A. It carries drawing No. A-14.123.116.

(Testimony of Eugene L. Grindle.)

Q. What is the date of the drawing?

A. The date of the drawing is April 28th, 1948.

Q. Does the drawing bear your signature?

A. The drawing bears my name as designer and is checked by initials R.A.C., which is Ray Chong, our chief draftsman.

Q. You recall making this drawing yourself?

A. Yes, I do. [46]

Mr. Hohbach: I offer this in evidence as Plaintiff's Exhibit 6.

The Court: It will be received.

The Clerk: Plaintiff's Exhibit 6 in evidence.

(Sketch received in evidence and marked Plaintiff's Exhibit 6.)

Mr. Hohbach: After you had made the drawing what did you do next?

A. The next step then was to consult with plastic extrusion manufacturers. It was my procedure, as well as most engineers out there, that when they designed things in a specialty field such as plastics or special equipment that was designed by specialty manufacturers, that we would design what we wanted, and then discuss it with them. They usually offered suggestions that would be for the purpose of adapting our design to their particular production methods.

Q. Why did you only show the extrusion on this drawing, Plaintiff's Exhibit 6?

A. Well, plastic extrusion manufacturers are usually, and I believe most always, in the process

(Testimony of Eugene L. Grindle.)

of just fabricating the plastic sections and are not interested in work other than the plastic itself, and it was not—I had never thought of the idea of any plastic extrusion manufacturer being interested in the assembly as a complete unit.

Q. Who did you plan on having assemble the dipstick? [47]

A. Our shops at Pan-American.

Q. Are they qualified to do work of this type?

A. Yes, they are. They do it all the time, day in and day out.

Q. You had a drawing and you wanted to get a quotation. Then what did you do to get this quotation?

A. Well, I looked up plastic extrusion manufacturers in the San Francisco area in the phone book and made a note of the American Molding Company and went to see them. And I took a copy of this drawing and the sample dipstick with me.

Q. Which sample of dipstick are you referring to now?

A. The sample that was made by Mr. Montoya, the final sample completed.

Q. It was the same as——

A. Plaintiff's Exhibit 4, I believe.

Q. Plaintiff's Exhibit 5?

A. 5; pardon me.

Q. Did anyone accompany you on this trip?

A. Yes, another engineer who also had business

(Testimony of Eugene L. Grindle.)

in town and was also interested in plastic work for his information accompanied me into town; in fact, we went in his automobile.

Q. What was his name?

A. His name was Marshall Seagrave.

Q. What did you do when you arrived in San Francisco? [48]

A. We went directly to the American Molding Company and were received by a gentleman, I don't recall his name, but it appeared that he was the owner or manager or head man in the establishment.

He first took us on a tour of his plant, which was a rather common thing when engineers visited a plant, to take them through to show you their production methods, which was very interesting; but we came back to his office then and discussed the possibility of him producing this extrusion for us.

Q. What did you show to this gentleman?

A. I showed him a copy of the drawing and a sample model which I physically—he examined physically.

Q. Did you tell him what you were interested in?

A. Yes, I did. And I was not surprised when he said that their work was mass production or at least high production type of work. When he heard the quantity that we were interested in, only a hundred units, or 300 feet of extrusion, he said that he didn't think they would be interested for such small quantities. He says he knew a man that was looking for work, he was not doing too well at the time, and referred me to Mr. Martin Welch.

(Testimony of Eugene L. Grindle.)

Q. Did you call on Mr. Welch?

A. I did—not that very moment. Mr. Seagrave had other business in town. We went to the Braun Knecht Heiman [49] Company—I believe that is where it was—and came back to our office later in the afternoon, and I called Mr. Welch either that afternoon or the following day.

Q. Do you have any way of fixing this date as to when you made this trip to San Francisco and when you called Mr. Welch?

A. Well, I know that it was within two or three days after completing that drawing. As soon as that was completed I was ready to discuss the project with a vendor.

Q. Now you said you called on Mr. Welch.

A. So the day that I would have called Mr. Welch would have been some time in the first week of May.

Q. What did you tell Mr. Welch?

A. I told Mr. Welch that I had a plastic extrusion job that I would like him to quote on, and told him that I was with Pan-American Airways. He said that he lived down the Peninsula in Millbrae and would stop in and see me.

Q. How did you call on him?

A. I called him by telephone. Mr.—this gentleman at American Molding gave me his name and phone number.

Q. Did Mr. Welch call on you?

A. Yes, he did. I believe the day after I called him on the phone he called on me at my office.



(Testimony of Eugene L. Grindle.)

Q. This is your office at Pan-American, correct?

A. Yes. [50]

Q. What did you do when Mr. Welch called on you?

A. Well, I discussed it with him in very much the same manner that I did with this man at American Molding. I knew that Mr. Welch was a representative of Plastic Process Company in Los Angeles who made the extrusions, and I showed Mr. Welch the sample stick, the same stick that I had shown American Molding, and the copy of the drawing.

I gave him a copy of the drawing and, to my recollection, I also gave him the dipstick. It was my understanding that Mr. Welch was intending to go to Los Angeles with it and expedite the reply from his company as to whether or not they could manufacture it.

Q. Did you show Mr. Welch any of your other samples you had made?

A. Yes, I did. In a corner behind my desk in the office I had numerous samples of sticks that were evolved in this development program.

Q. What happened to those sticks?

A. The only one that I have been able to recover is that one that we introduced as Plaintiff's Exhibit 4, was it?

Q. Plaintiff's Exhibit 3.

A. Plaintiff's 3, which had somehow or other fallen behind the drafting room files which had not



(Testimony of Eugene L. Grindle.)

been moved in years, were just recently moved, and they found this stick behind the files. All the others had been lost in the shuffle [51] somewhere.

Q. Could you relate what Mr. Welch said to you at this conference?

A. Mr. Welch said that he would get a reply from his company as soon as possible.

Q. And I assume he left Pan-American, is that correct?

A. Yes, he did.

Q. What did he have with him as far as you can remember?

A. I know he had the drawing, and to my recollection he took the dipstick. There seems to be some question about that particular point, however.

Q. When did you hear from Mr. Welch again?

A. I don't recall exactly; I believe it was about a week.

Q. And how did you hear from him?

A. Well, he came into my office one day and said that he had received a reply from his company, and some plastic extrusion.

Q. Did he call you by phone first?

A. I don't believe so. I believe he just walked into my office.

Q. And what did he have with him?

A. He had a piece of square sixteenth inch well plastic tubing and two pieces of quarter inch outside diameter round tubing, all three pieces in approximately three foot lengths.

Q. What did Mr. Welch say to you? [52]

(Testimony of Eugene L. Grindle.)

A. Mr. Welch said that this company had studied my extrusion and said that it would be costly to produce, and in the manner of many companies on this thing, they offered standard materials that they had in stock as a possible substitute and asked if we could use those.

Q. Is this an example of the extrusions Mr. Welch brought in to you?

A. Yes, this is an example of what Mr. Welch brought in.

Q. Were the tubes separate from the square extrusion?

A. Yes, they were. I don't recall exactly whether they were laying inside the tube or whether he handed them to me separately. I know that they were undoubtedly pulled right out if they were inside and examined by me.

Q. Were the tubes held in place within the tube?

A. No, they were not.

Mr. Naylor: Mr. Hohbach, it isn't represented that these were the actual tubes?

The Witness: No.

Mr. Hohbach: No, it is not. They are just examples. I would like to offer these in evidence as Plaintiff's Exhibit 7. I would suggest that they be marked 7-A, B and C. There are three pieces.

The Court: All right.

The Clerk: Plaintiff's Exhibits 7-A, B and C.

(Tubes marked Plaintiff's Exhibits 7-A, 7-B and [53] 7-C. respectively, in evidence.)

(Testimony of Eugene L. Grindle.)

Q. (By Mr. Hohbach): Were the pieces that Mr. Welch gave you of this same length?

A. Approximately, three feet long.

Q. How long were your dipsticks going to be?

A. Three feet. My sample that I had produced was three feet long, which was the length required to accommodate the deepest tank in the airplane.

Q. Had you seen round tubes like this before?

A. Yes, I have. It was tubes very similar to that that I drew out of stock—we carried them in stock for years—to determine what size tubing could be used to support this fluid column by finger vacuuation.

Q. Had you seen square extrusions before?

A. We have used square extrusions in metal tubes. I hadn't seen square extrusions of those exact dimensions in plastic before.

Q. Where did you acquire the three-quarter inch extrusion that is shown in Plaintiff's Exhibit 3?

A. That was purchased from the Rohm & Haas Company in San Francisco, manufacturers of lucite products.

Q. What did you do with these standard extrusions that Mr. Welch had given you?

A. I then took them to our drafting supervisor, Mr. Ray Chong, and gave him sketches of how I wanted the wooden filler cut out and how I wanted the plastic—or the paper [54] calibrations cemented on there, and also the calibration that I had acquired from our calibration tests and showed him how the calibration had to be laid out on the stick.

(Testimony of Eugene L. Grindle.)

Q. Did Mr. Welch inform you how these standard extrusions were to be used?

A. No, he did not. I wouldn't conceive that that would be possible. My only contact with Mr. Welch was for the purpose of supplying plastic extrusion at that time.

Q. You took these back to the drafting department. Who did you give the extrusions to?

A. To the drafting supervisor, Mr. Chong.

Q. And what did he do?

A. Well, he immediately accepted the sketches and made a—put it on his project list. He had a considerable amount of work in the drafting room at the time, as I recall, and he didn't get at this job immediately. It was a matter of about ten days or so before he had actually completed the drawing on it.

Q. Do you remember what was shown on the drawing?

A. The drawing showed this particular tubing, this square and two round pieces of tubing section, which was a complete assembly of a dipstick, showing a wooden filler specially milled out to accommodate the round tubes, dimensioned to show—to correlate the dimensions of the wooden filler with the paper calibration that had to go on there, which [55] was a very important part of the drawing. The actual complete assembly had to be laid out in very accurate detail to determine the actual dimensions of the wooden filler, because it had to

(Testimony of Eugene L. Grindle.)

accommodate this paper on there so that the calibrations would appear in the proper place.

Mr. Hohbach: Your Honor, I will introduce this drawing in evidence at a later time.

Q. Is it customary to make drawings of this type?

A. Yes, it is. Any item that is to go to an outside vendor to our design, we make a drawing of it.

Mr. Naylor: Your Honor, I wonder if we could have that drawing marked at this time so that it would fit into the sequence of this particular series of events? There are several drawings, and I think it might be confusing if it isn't tied in.

Mr. Hohbach: All right.

The Witness: May I stand up here?

Q. (By Mr. Hohbach): Is this a copy of the drawing that was prepared by Mr. Chong?

A. Yes, it is.

The Court: Is this a copy of what you have in your hand?

A. Yes, the same.

Mr. Hohbach: Yes, it is, Your Honor.

Q. (By Mr. Hohbach): What number does the drawing bear?

A. The drawing bears number D-32.061.114. [56]

The Court: I think before we get into the explanation of this drawing we will take the noon recess. Would it be convenient for you gentlemen to return at 1:30?

Mr. Naylor: Yes, indeed.

Mr. Hohbach: Yes, Your Honor.

The Court: We will recess now until 1:30.

(Testimony of Eugene L. Grindle.)

(Whereupon an adjournment was taken until 1:30 o'clock p.m. same day.) [57]

Wednesday, February 8, 1956, 1:30 P.M.

The Court: Proceed.

Q. (By Mr. Hohbach): Mr. Grindle, just before lunch I gave you a copy of the drawing. Could you identify the drawing?

A. Yes, this is a drawing made by Mr. Ray Chong showing myself as designer, signed by myself and the engineering superintendent of Pan American.

Q. When did Mr. Chong sign the drawing?

A. Mr. Chong didn't actually sign it by signature, but he indicated his name as the draftsman on June 4, 1948.

Q. When did you sign the drawing?

A. I signed the drawing on June 7, 1948, as well as my superiors.

Q. Could you describe briefly what is shown in the drawing?

A. Well, the drawing is a detailed drawing of a complete fuel tank dipstick calling for this square plastic tubing with two pieces of wound tubing for the fluid column in opposite corners, incorporating a wooden filler cut out to a very definite shape to accommodate the round tubes and upon which is cemented a paper graduation. The ends—on the drawing in its present state, it calls for the ends being sealed by filling them with cement to a depth of



(Testimony of Eugene L. Grindle.)

three-sixteenths of an inch. That particular part of the drawing was incorporated on 9/1/48. [58]

Q. Will you point out where you see that change was made?

A. Yes, up in the righthand corner, Your Honor. The procedure was, when you made a change to a drawing which had been released, it required a change letter telling what the change was and calling out on the body of the drawing what it was that was changed. In this particular case this A-1 change shows a dash-12 block was deleted, removed, and in the place of it the end was filled with cement.

Mr. Hohbach: I would like to offer this in evidence as Plaintiff's exhibit next.

The Court: Let it be received and marked.

The Clerk: Exhibit 8.

(Whereupon blueprint referred to was received in evidence and marked Plaintiff's Exhibit No. 8.)

The Witness: I would like to say that when our dipsticks were first ordered in accordance with that drawing, the drawing called for that dash-12 solid block in the end, three-sixteenths of an inch thick.

Q. (By Mr. Hohbach): Does the drawing show a graduation chart?

A. Yes, it does in detail.

Q. Going back to your first conference with Mr. Welch, did you give him a copy of Plaintiff's 6—that's drawing A-14.123.116?

A. Yes, I did. That is the extrusion drawing. [59]

(Testimony of Eugene L. Grindle.)

Q. Yes.           A. Yes.

Q. Did you specify any critical size for the extrusion?

A. Yes, I did. The sizes of the tubing extruded, the extruded tubing was to be no more than three-quarters of an inch square. As a matter of fact, it also required rounded corners.

Q. Is that shown on the drawing?

A. Yes, it is. This particular drawing is drawn twice size, it shows dimensionwise that it is three-quarters of an inch square, and it has an eighth inch radius in the corners. The reason for that was that our fuel tanks on these airplanes on which this stick was to be used had a screen with a trapdoor in the bottom, which wouldn't accommodate a stick any larger than that embodied in this drawing.

Q. What dimension did the standard extrusion, the standard square extrusion that Mr. Welch returned to you have?

A. It had very much the identical dimensions of that one.

Q. Going back to your second conference with Mr. Welch, in which he brought in to you those standard extrusions, Plaintiff's Exhibits 7-A, B and C, did he give you a quotation at that time on supplying those extrusions?

A. No, he didn't. My contact with Mr. Welch up to that time or my request of Mr. Welch had been for him to furnish quotations on plastic extrusions. At the time he delivered [60] the extrusion, he did not deliver a price quotation.

(Testimony of Eugene L. Grindle.)

Q. After Mr. Chong had completed the drawing D-32.061.114, which is Plaintiff's Exhibit 8, what did you do?

A. Would you repeat that?

Q. After Mr. Chong had completed this drawing, this Plaintiff's Exhibit 8, what did you do?

A. Well, actually prior to completing the drawing, which was some week or ten days or possibly two weeks after Mr. Welch had brought in the extrusion, some time in the interim before the drawing was completed, Mr. Welch came to me and asked if he could quote on the entire assembly of the dipstick. And I said I didn't see any reason why not. He could quote both ways and that if he wanted to build the entire dipstick I would get him an advance copy of the drawing and he could make up the sample, a sample which I had previously intended that we make in our shop, in order to test the stick to see if it would be acceptable.

Mr. Welch therefore received the copy of this advance drawing. I myself took it down to our print shop at Pan American and had them run off an Ozalid print from it, which I gave to Mr. Welch so that he could assemble a complete model in accordance with this drawing. And at the same time I had Mr. Welch or Mr. Chong—pardon me; our draftsman—draw up a full-scale calibration chart, which I also had printed and gave to Mr. Welch so he could incorporate it in his initial [61] sample. Those were given to Mr. Welch at some time prior, possibly a

(Testimony of Eugene L. Grindle.)

day or two prior, to the date on the drawing because it was an advance copy.

Q. Can you fix the date when this took place? Possibly you can refer to the drawing.

A. Well, the drawing is dated by Mr. Chong on June 4, 1948. The copy that Mr. Welch received was probably on that day or a day or two prior to that, because the drawing was just about completed on the 4th.

Q. What do you mean by if you made an advance copy? What was the original drawing? On what was that made?

A. Well, the original drawing was substantially the same as it is in its present form except that the ends were sealed more in accordance with the sample that I had originally built in our shop. It only contained a thin layer of plastic in the end to act as a seal, and the original drawing in that form for Mr. Welch to make a sample, in that drawing the ends were only sealed with a very thin layer of plastic.

Q. What I meant is, was the original drawing made on tracing paper or some other material?

A. The original drawing was made on tracing film, yes.

Q. And you took that tracing film and had a copy made for Mr. Welch?

A. I did that personally, yes. [62]

Q. And at the same time gave him scales which were to be incorporated in the sample, is that correct?

A. Yes, I did. They were also printed on Ozalid.

(Testimony of Eugene L. Grindle.)

Q. What do you mean by Ozalid?

A. Well, Ozalid is this paper right here. It is just a form of blueprinting. The difference between this and blue printing is that it is a white background with dark lettering on it and so on. It is called an Ozalid machine that they run it on.

The Court: How is that spelled?

The Witness: It is spelled O-z-a-l-i-d. It is a process used by almost all companies now to reproduce drawings.

Q. (By Mr. Hohbach): You made a drawing of this dipstick. Can you tell us when Pan American normally makes drawings of parts?

A. Yes, the only time that Pan American makes drawings is when they are drawing something to their design or possibly taking some vendor's component, a motor or whatever you may have on an airplane, and redesigning something on it. There has never been any occasion, to my knowledge—I believe this can be corroborated by anyone at Pan American—where Pan American had ever made a drawing covering an item of a vendor which they were already producing or had designed themselves. There would be no occasion for Pan American to make drawings embodying some outside vendor's product. [63]

Q. What was done with the standard extrusions that Mr. Welch had given you?

A. The extrusions that Mr. Welch gave me, which I turned over to Mr. Chong to make a drawing from, were returned to Mr. Welch with



(Testimony of Eugene L. Grindle.)

the advance copy of the drawing; my understanding was he was going to use them to make up his initial sample.

Q. Did Mr. Welch make up a sample dipstick?

A. Yes, he did.

Q. When did you find out that he made up the sample dipstick?

A. Mr. Welch returned a few days after we had given this advance drawing to him with a complete assembled dipstick for us to test, and at the same time he gave us a quotation based on the sample he delivered.

Q. What did Mr. Welch state at the time he delivered the sample?

A. Well, as far as relates to the sample itself you mean?      Q. Yes.

A. Well, he said that his interest now was primarily in furnishing us a completely assembled dipstick. He went into some great detail to explain to me that his connection with Plastics Process Company was that he was merely a San Francisco representative for the company, on a very small retainer—he mentioned to me \$50 a month—and that he was not doing [64] but very little plastic business and was in very dire financial straits. He said he would like very much if we could give him the job in its entirety, so he could make a few dollars.

Q. When did this first come to your attention, that he wanted to supply a complete dipstick?

A. Well, some time after he brought in the original plastic samples from his Los Angeles factory,



(Testimony of Eugene L. Grindle.)

he approached me from the standpoint of making the entire assembly.

Q. And this is contrary to your original plan, is that correct?

A. That was the first idea that I had ever entertained of anything other than assembling the sticks in our own shops.

Q. Can you describe the sample dipstick that was given to you by Mr. Welch?

A. The sample that Mr. Welch submitted for testing was made of a wooden filler, milled out to accommodate the round tubes. It had cemented on it an Ozalid print of the DC-4 airplane calibration and the ends were sealed with a thin plastic plug.

Q. Where did he get the scale for the sample dipstick?

A. It was the scale that I had given him.

Q. What did you do with the sample dipstick submitted by Mr. Welch?

A. Well, now, this sample dipstick was to the point now [65] where I had an item that could be shown to the people that were going to use the dipstick. Prior to this time none of these designs that I had experimented with or developed were officially submitted for approval because I hadn't been satisfied with them, for some reason or another, myself. But now we had a stick that we were ready to test to see if they would be acceptable for purchase. So I called in a man, Mr. Harold Schmidt—

Q. Before you go on with this, is this an example

(Testimony of Eugene L. Grindle.)

of the dipstick that was submitted to you by Mr. Welch?

A. Yes, this is an exact replica of what Mr. Welch submitted. That particular one was tested to destruction, so this is a replica that I built myself.

Q. How did you make up the scale?

A. I made up the scales in exactly the same manner that I had when I gave it to Mr. Welch. It is printed on an Ozalid scale. I drew it myself.

Q. All right. Go on with your story as to what happened when the sample was submitted to you.

A. All right. As soon as I received the sample, I told Mr. Welch that we would test it and let him know what our decision would be. And I called in Mr. Harold Schmidt whose position was essentially the same as mine is at the present time—who was technical assistant to the chief flight engineer. It was he who initiated the request for a new dipstick design. [66] So he was called in to participate in a test to see if it would satisfy our needs.

Now, he came over to our hangar——

Mr. Naylor: Pardon the interruption, if the Court please. I wonder if we could fix the time on this particular test because we have sort of lost track of what time we are talking about.

Q. (By Mr. Hohbach): Can you give us the approximate date as to when this test took place?

A. Now, I believe that test took place around the 5th, 6th, 7th of June—somewhere in that time.

Q. How do you fix it relative to plaintiff's exhibit 8? That is the last drawing we had offered in evidence.

(Testimony of Eugene L. Grindle.)

A. Well, I fix it as prior to June 7th, because the final acceptance of that drawing incorporated certain changes that were made as a result of our destruction tests.

Q. After Mr. Schmidt came over to witness the test, what did you do?

A. Well, we had already satisfied ourselves that the stick functionally would do the job—you could stick it in a tank and draw fluid out and read the level very accurately. But we were still questioning the ability of this stick to stand the day in and day out use and abuse that some of our mechanics might subject it to. Our wooden sticks had often been thrown off the wing, been run over by trucks and scratched [67] and damaged considerably so we wanted to rather subject this stick to the type of use it would be given in operation.

Q. Could you describe that test for us?

A. Well, we thought that we would give it as severe a test as we could reasonably expect it to withstand and our offices in the hangar were located up above the general hangar floor, the walkway up there was about fifteen feet above the hangar floor and fairly well simulated the height of an airplane wing. So we decided to throw the dipstick from the hangar deck down to the floor and against engine stands or what may be down there just to see how it would hold up. And after several throws we were already quite satisfied that it was a very sturdy, durable stick. But we kept throwing it and made a definite attempt to strike it on the end, which we suspected

(Testimony of Eugene L. Grindle.)

would be the weakest part of the stick. On the ninth time that we threw it, it split the end of the stick. So Mr. Schmidt and myself examined the failure of the stick and saw that the wooden filler in it, because we hit it on the end—so much inertia was developed in this wooden filler that it shifted in the stick and tried to punch this end plug out. It also cracked the square tubing up a couple of inches on the side of the tube. So it didn't appear that the plug was thick enough or had enough bonding area there to withstand the shock. And it seemed a very simple matter to correct that. So I told Mr. Schmidt that I would beef up the end of [68] the stick, and that we would order them.

Q. Well, before you go on can you tell us how the end of this stick is constructed?

A. Yes, this stick is—I would like to expose this drawing again.

Mr. Hohbach: The plaintiff is referring to Plaintiff's Exhibit 8.

A. (Continuing): This stick is constructed in exact accordance with this drawing with the exception of the way the end is sealed. There is a little plastic end plug here, made the exact shape of the wooden filler, and after the wood is pushed in there, it is recessible, with plastic about one-sixteenth of an inch, and then this end plate is put in there and cemented in place.

Q. Can you tell us how thick that end plug is?

A. Well, the end plug on here is about a sixteenth of an inch thick. If I had a knife or something,

(Testimony of Eugene L. Grindle.)

I could scrape that off and you could see it. Mr. Welch, I believe at my suggestion, has always painted over the ends of these sticks here. As a matter of fact, for years we furnished him the blue paint. It is Pan American blue that was used on all his sticks. That was just to cover this end. I will throw this on the floor. There, Your Honor can see that the end plate in this stick is very thin (indicating).

Q. Now, you stated that you constructed this yourself; is [69] that correct?

A. Yes, I did.

Q. And as far as you remember, this stick is constructed exactly the same way that the original sample submitted to you by Mr. Welch was?

A. Yes, it is, and I am sure Mr. Schmidt can corroborate that.

Mr. Hohbach: Your Honor, I would like to offer this in evidence.

Mr. Naylor: Before you do, would you fix the time when Mr. Grindle made this particular sample?

The Witness: It was made in the last couple of weeks, since I heard that the case was set for trial. We decided, because the other one had been destroyed, it would be good to produce a replica.

Mr. Hohbach: Your Honor, I would like to offer this in evidence as an example of the stick submitted to Mr. Grindle by Mr. Welch, as Plaintiff's Exhibit 9—it would be.

The Witness: I would like to say here that this stick, although constructed recently, was not con-



(Testimony of Eugene L. Grindle.)

structed from my memory but from the drawing which is very clear except for that end piece which I remembered very distinctly as being very thin.

Mr. Naylor: And which drawing are we now talking about, Mr. Grindle? [70]

The Court: Exhibit 8.

Mr. Naylor: Exhibit 8.

The Witness: That is correct.

The Court: Let it be received in evidence.

The Clerk: Plaintiff's Exhibit 9 in evidence.

(Whereupon replica of dipstick referred to above was received in evidence and marked Plaintiff's Exhibit No. 9.)

Q. (By Mr. Hohbach): You stated that you found that the end failed in this dipstick submitted by Mr. Welch? A. That's right.

Q. What did you do after that?

A. Well, the solution seemed very simple to me, and that was to increase the thickness of that end plug to get more adhesion strength from the plug so that it could resist the impact of this wooden filler against it. So I increased the thing to three-sixteenths of an inch thick, which would give you 300 per cent of the bond strength that you had with the one-sixteenth inch piece.

Q. Is that shown on your drawing, Plaintiff's Exhibit 8?

A. Well, that block actually—I will look at this drawing. That block actually was called for here,



(Testimony of Eugene L. Grindle.)

and the dimension was shown there as three-sixteenths of an inch, but it was removed by this dash-12. It was the dash-12 block. It was removed by this A change. [71]

Q. Is it shown in the bill of material?

A. It is shown on the bill of material, but it shows it as scratched out and deleted for this A change.

Q. Was that block in the drawing that you originally submitted to Mr. Welch?

A. The advance copy you mean?

Q. Right.

A. There was an end plate in there, but it was not three-sixteenths of an inch thick. It was only a thin plate, either a thirty-second or a sixteenth of an inch thick. Do you want me to explain how we made that A change at this time?

Q. Who made this A change on the drawing that you have been referring to?

A. Well, the actual A change was made by a draftsman, Bill Peterson. He himself is no longer with Pan American, but his work was under the supervision of Mr. Chong.

Q. Why did you think the use of a thicker block would help in construction of the dipstick?

A. Well, primarily to give you additional adhesive area between the end plate and the square and round tubing, so that you would have a greater area of cement.

Q. Why did you need this greater area?

A. Well, that was where the stick failed. The

(Testimony of Eugene L. Grindle.)

stick that we had tested to destruction. That turned out to be [72] the weakest point, and I decided to beef it up just so it would be a little stronger.

Q. Why did you think it failed at that point? What caused it to fail?

A. Because we had thrown a stick down and it had hit the end of the stick, and this wooden filler with the paper calibration is loose inside the tubing and when it hit on the end of the tubing, the wooden filler shifted in it and tended to push out the end plug.

Q. You stated you recommended the placement of a block in the ends. How would you make such a block?

A. Well, a block like that could be made in numerous ways. It could be extruded, it could be machined out of square plastic, it could be molded, could be laminated out of thinner pieces built up and cemented together to form a thicker block.

Q. What would be the easiest way to make such a block?

A. It would depend entirely on the quantity of production that we were going to get into. If it were going to be a mass production item, I would think that a molded block would probably be the cheapest in the long run. For a limited production, if it was concerning this item, the cheapest way to produce a block would be to laminate it out of thinner pieces, which you could stamp with a very cheap die.

(Testimony of Eugene L. Grindle.)

Q. Is lamination used in the aircraft industry extensively? [73]

A. It is very common practice and has been for many years.

Q. Could you give us some examples?

A. Well, there are numerous things in aircraft as well as other fields. Laminated plastics in aircraft are such things as windows, tabletops, mirrors, murals and things that we put on the wall. Plastics were developed, many plastics and plastic applications were developed by the aircraft industry because they couldn't use glass in an airplane because of the fact it would shatter and to vibration and impact, and it had to have safety glass. Now, safety glass in automobiles is made up of laminated sections with a plastic laminate in between glass pieces in order to give it additional strength and prevent it from shattering.

Plywood that is sold and used by householders all over the world is made up of laminated sections.

Q. If you asked a mechanic to build you up, to make you a block and he didn't have the material of that thickness, how would he make up the block?

A. Well, undoubtedly any mechanic——

Mr. Naylor: Excuse me. I would like to inquire as to the pertinency of this line of examination to the issues of this lawsuit, if I may, please. It seems to me that we are wandering far afield and we are now hearing Mr. Grindle give an exposition of the practices of lamination, and I don't know that he has been qualified as a plastic expert, [74] nor do I

(Testimony of Eugene L. Grindle.)

see any degree of pertinency to the issues of this particular controversy.

Mr. Hohbach: Well, Your Honor, the pertinency in relation to Claims 2 and 3 of the patent, if your Honor has had an opportunity to read those claims—you will see that it calls for laminated end plugs and we are just filling up and showing here that lamination is a word in the art, and that any ordinary mechanic would do the same thing.

The Court: I will allow the question.

Mr. Hohbach: Pardon?

The Court: I will allow the question.

Q. (By Mr. Hohbach): Mr. Grindle, have you had any experience with plastics?

A. Yes, I have. I have worked with plastics myself. I am not a mechanic, but I enjoy working with things. I have made plastic objects. I have made my own drafting triangles and things from plastic. I am at the present manufacturing a product which is made of plastic. I mean, it has a plastic case which I make myself.

Q. Approximately when was this block that is called for in the drawing entered on the drawing?

A. It was entered on the drawing immediately subsequent to our destruction tests of this sample stick, and that would be probably on the date of June 7th, the date that I signed the drawing as being complete and a final drawing. [75]

Q. When was the use of the block deleted?

A. Well, the use of the block was deleted, the

(Testimony of Eugene L. Grindle.)

actual date that it was deleted from the drawing was 9/1/48. But——

Q. Do you know why it was deleted?

A. Yes, when Mr. Welch delivered his first order of dipsticks to Pan American they were not built in accordance with this drawing because of that very feature. He did not incorporate this three-sixteenths of an inch block. Instead of the block, he filled the end with cement and let it harden into a block. Now, functionally the stick did the same thing and it was acceptable from a functional standpoint. So we accepted the sticks in that manner, even though they didn't incorporate the block. There were some sticks out of the first shipment that he made that we rejected because the calibration was not inserted in the stick within the tolerances that we required on our drawing. But the fact that the end plugs were not put in there, we accepted, because the stick was functional.

Q. When did——

A. Pardon me. Because the stick was not made in accordance with the drawing, I verbally approved accepting them, but the verbal approval had to be authorized by a drawing change, so that the sticks would be received per the purchase order.

Q. Did Mr. Welch ever submit a quotation to you? [76]

A. Yes, Mr. Welch submitted a quotation at the time he delivered the sample for testing.

Q. Is this a copy—is this the original of that quotation?



(Testimony of Eugene L. Grindle.)

A. Yes, this is. It is a quotation dated June 7, 1948.

Q. Can you state what appears on the quotation?

A. Yes, it says, "We quote you as follows: 300 dipsticks complete per sample submitted but with printed scale." I would like to say that that indicates the sample was complete, but the scale was this Ozalid copy. And he goes on—

Q. What sample is he referring to there?

A. He is referring to a sample that he submitted to us for destruction tests.

Q. That's Plaintiff's Exhibit 9?

A. Correct. Now this quotation also says, "While our quotation is based on 300 units, we can assure you that 100 units will be furnished you for the same price or less."

Now, Mr. Welch had repeatedly asked me if we could give him a larger order, and a hundred units was all that I could justify. And even to this date he was trying to get a large order, but we couldn't do it. But he did say that the quotation would apply to a hundred quantity also. It was approximately this time that he first indicated to me his situation with Plastic Processes and he wanted purchase orders made out to his office instead of made to Los Angeles and so forth. [77]

Mr. Hohbach: I offer this in evidence as Plaintiff's Exhibit 10. I know that it bears the identification Plaintiff's Exhibit 10. I know that it bears the identification Plaintiff's Exhibit 10 for identification.



(Testimony of Eugene L. Grindle.)

The Court: What was that? Some pretrial?

Mr. Hohbach: This was in a deposition that was taken where it previously carried that number.

The Court: Oh. Exhibit 10.

Mr. Hohbach: Now Exhibit 10.

(Whereupon copy of quotation dated 6/7/48 referred to above was received in evidence and marked Plaintiff's Exhibit No. 10.)

Q. (By Mr. Hohbach): Did Mr. Welch ask you for a release to sell to other airlines?

A. Yes, he did. About the time that he quoted on this initial order of ours, I believe it was probably a day or two after he had given us this quotation, because the quotation was delivered approximately the time or a day or two later that he submitted the sample. But just a day or two after he submitted this quotation he came to me and he said—he asked if I thought there would be any use with this dipstick with other airline operators and I told him that practically all operators, including the Air Force, used a fuel tank dipstick. I believed this was quite an improvement over anything in use at the time and that he should be able to sell them to other people. And he says, well, would Pan [78] American give me permission, would you write me a letter granting me permission to sell these to other airlines and give me a testimonial of some kind that will show how much better this is so I can use it to sell fuel tank dipsticks? He says, "If you will let me sell them to other people." he said, "I will

(Testimony of Eugene L. Grindle.)

give you a price consideration. I will sell them to you for \$3.00." I told Mr. Welch that I would consult with my superiors to see if that would be acceptable to them.

I then went to my immediate superior and told him the story. He had been familiar with the project anyhow. He went down to Mr. Connor, the assistant maintenance manager, and asked him if he could write such a letter. He returned to me and he said that it would be all right to give Mr. Welch that permission and instructed me to draft such a letter.

Q. Before you go on to that, could I ask you, after you received this requisition—I mean this quotation from Mr. Welch, what did you do?

A. After I received the quotation?

Q. Right.

A. Well, by the time I had received the quotation we had completed our destruction tests on the sample that he submitted and I had already initiated the change to the drawing to add this thicker block in the end. That was a deviation from the way he quoted on it. We were making a change from what he had quoted on, so because of that I voluntarily offered to [79] increase his quotation by 25 cents to cover this modification that we had made.

Q. Did you issue a requisition?

A. I initiated a requisition, yes.

Q. Was that an advance to purchase order by Pan American?

A. Yes, the procedure there is that the requisition be initiated by myself, in this case, or any engineer

(Testimony of Eugene L. Grindle.)

designing something like that, which would go to the supply department and they would write the actual purchase order.

Q. Did you tell Mr. Welch that you were going to give him a requisition or purchase order?

A. Yes, I did verbally, and at the time that I had received permission from my superiors to grant him permission to sell it to other people I wrote him a letter.

Q. Is this a copy of the purchase order given by Pan American to Mr. Welch?

A. Yes, this is a purchase order, No. 30-017541, dated June 21, 1948, for 100 dipsticks at the price of \$3.25 each. And it is confirming to Mr. Welch delivery within one month. It says that "Enclosed is one blueprint No. 32.061.114."

Q. That is referring to Plaintiff's Exhibit 8, is that correct?

A. That is correct.

Q. Did you identify the part number of the dipstick on the purchase order? [80]

A. The part number of the dipstick on the purchase order as is on all parts manufactured to Pan American design, a Pan American part number which is exactly the same as the drawing number.

Q. When did Mr. Welch promise to deliver the dipsticks?

A. Promised to deliver them within one month of our purchase order and—

Q. You say that on the purchase order, is that correct?

(Testimony of Eugene L. Grindle.)

A. Yes, the purchase order says, "Conforming to Mr. Welch," which seems that he had agreed to do that.

Mr. Hohbach: I offer this in evidence as Plaintiff's Exhibit 11.

The Court: It may be received.

The Clerk: Plaintiff's Exhibit 11 in evidence.

(Whereupon purchased order referred to above was received in evidence and marked Plaintiff's Exhibit No. 11.)

Q. (By Mr. Hohbach): You stated that you had gone to see your supervisors about giving a release to Mr. Welch. What did your supervisor say?

A. Well, my supervisor said that it was a rather unusual request, but after thinking about it it seemed in order that we were going to get a price consideration for this letter and that that would be an advantage to Pan American; so he agreed to it. [81]

Mr. Naylor: If the Court please, this is purely hearsay at this point. I mean, after all, we are talking about what the supervisor said, and I assume that they are seeking some variation of the written document that eventually came to Mr. Welch.

Mr. Hohbach: I will strike that question. Probably leading anyway.

Q. What is your understanding as to the conversation you had with your superior, the supervisor?

A. Well, my understanding of that conversation was that I was pursuing a specific request by Mr.

(Testimony of Eugene L. Grindle.)

Welch to write a letter to him which he could use to sell to other airlines, and which would give him permission to sell dipsticks to other airlines; and it was my understanding of that conversation that because of their knowledge of the project and the advantage that it would be to Pan American to get a price consideration they would grant this letter.

Q. Did you write a letter, then?

A. Yes, I did. I wrote a letter, I believe it was dated June 10th.

Q. Is this the copy of the letter?

A. Yes, this particular one I have is our actual official file copy of that letter.

Q. Who wrote the letter?

A. I wrote the letter myself. [82]

Q. How can you tell that?

A. Well, on the second page, Your Honor, it is the policy on all letters written by an individual that the individual's initials appear in the lower left-hand corner.

Q. What are your initials?

A. My initials are E.L.G.

Mr. Naylor: Mr. Hohbach, would you like to introduce the original of that letter?

Q. (By Mr. Hohbach): Is this the original of that letter, Mr. Grindle?      A. Yes, it is.

Q. Does it conform with the copy which I just gave you?

A. It does except in one minor detail and that is that our office copy showed certain blind distri-



(Testimony of Eugene L. Grindle.)

bution that was not on the letter to Mr. Welch. There are copies here that went to our other divisions with a special note to these blind carbon copies saying that, "We will send each of you one of the production dipsticks for your comment and possible use on or adaptation to your aircraft. The sticks will cost approximately \$3.00 each." And that was to indicate that the price that we would be paying for these sticks would be \$3.00.

Q. What did you generally state in the letter?

A. Well, generally I said here that, transmitted with this letter because it was in advance of our actual purchase [83] order, would be copies of our drawings, the final and official drawing, and that our purchase orders would be issued for 100 units based on his June 6th, 1948, quotation. I said, "However, we have altered the design of these sticks from the original sample to incorporate solid plastic blocks in each end for additional strength. We are assuming that this change will not increase the cost by more than 25 cents per unit. Please advise if any further price adjustment will be necessary."

Q. Was that price increase that you were speaking of shown on the purchase order? ..

A. Yes, it was; it was accepted by Mr. Welch.

Q. Will you go on?

A. I said that "the graduation chart, the original from which you should make the printed reproduction, is being sent to you under separate cover to avoid damage in mailing."

This was a drawing of the actual calibration which



(Testimony of Eugene L. Grindle.)

would now have to be photographically reproduced, so it had to be handled very carefully and couldn't risk being damaged in the mail. Then I went on in this letter to explain why the dipstick was developed and some of the characteristics and features of the dipstick, and the fact that it should be received by other airlines. And in my last paragraph I said, "This letter will constitute release of the design to you to market as you see fit." The sole intention of that last [84] paragraph was to authorize him to sell the dipstick and no other.

Mr. Naylor: I move that last may go out, Your Honor. That is——

The Court: That is a volunteer statement; let it go out. The letter speaks for it.

Q. (By Mr. Hohbach): Who signed the letter?

A. The letter was signed by Mr. J. D. Connor for Mr. J. Weesner.

Q. How come Mr. Connor signed it?

A. Mr. Connor was assistant maintenance manager, assistant to Mr. Weesner and was authorized to sign for him.

Mr. Hohbach: I offer these in evidence as Plaintiff's Exhibits 12 and 13.

The Court: Let them be received.

The Clerk: Plaintiff's Exhibits 12 and 13.

Mr. Naylor: Which is which?

Mr. Hohbach: The original should be 12 and the Pan American copy should be 13.

Mr. Naylor: Thank you.

(Testimony of Eugene L. Grindle.)

(Whereupon original letter and copy thereof referred to above were received in evidence and marked Plaintiff's Exhibits Nos. 12 and 13, respectively.)

Q. (By Mr. Hohbach): You read the last paragraph of that letter. Did you discuss that with your supervisors? [85]

A. Yes, I did.

Q. What was your understanding—Strike that. Did you tell your supervisor what Mr. Welch had asked you?

A. Yes, I did.

Q. What did you tell them?

A. I told them that Mr. Welch would like to sell these dipsticks to other users and asked for our permission, for which we were to receive a price consideration.

Q. It was clear in your mind that Mr. Welch was to give Pan American a price consideration; is that correct?

A. Absolutely correct.

Q. Did you tell that to your supervisors?

A. Yes, I did.

Q. Did they give you authority to—Did they give you permission to write this letter?

A. Yes, they did.

Q. What did Pan American intend to convey by the last paragraph of this letter?

Mr. Naylor: Now, again, I think we are trying

(Testimony of Eugene L. Grindle.)

to vary or explain language which speaks for itself,  
Your Honor.

The Court: I think the letter speaks for itself; objection sustained.

Mr. Hohbach: Your Honor, I would like to point out that the witness had testified that the release was given for [86] a price consideration and that is not shown in the letter, as you will note.

Q. (By Mr. Hohbach): Mr. Grindle, could you tell us why you didn't put this price consideration in the letter?

A. Yes, I can. There was a very definite reason for not putting it in here. Mr. Welch solicited this letter for the purpose of showing it to prospective customers and whether he asked me specifically not to mention the price consideration or not, I don't recall; but it would be obvious that it wouldn't be much use to him to show to other customers if he was selling it to Pan American cheaper. But that is the purpose of—that's what he told me he wanted the letter for.

Mr. Hohbach: May I ask what the witness intended to convey by this letter or what Pan American intended to convey?

The Court: Well, I will say that the letter was self-explanatory. Now, the answer to the last question which you asked, I think, clarifies the situation. It would be obvious that if Mr. Welch was going to sell it to other prospective users, he wouldn't want anything in there about a reduced price. That is perfectly understandable and conceivable, isn't it?

(Testimony of Eugene L. Grindle.)

Mr. Hohbach: That's right, Your Honor. However, there is some dispute as to the breadth of the terms—"This will constitute a release to you to market as you see fit." [87] I am just trying to get his interpretation as to what he meant by it.

The Court: Well, all right; I will allow that.

Q. (By Mr. Hohbach): What did you intend to give to Mr. Welch by this last paragraph of the letter?

A. Well, exactly what he requested.

Mr. Naylor: Your Honor, if he is going to try to water it down and qualify it by language that is not there, I think it is objectionable.

The Court: Well, you may be technically correct, depending upon the character of his answer. I will try to separate the wheat from the chaff.

Mr. Naylor: Thank you, Your Honor. I don't want to be sitting by silently while it goes in.

The Court: I understand.

A. Well, I had a rather clear understanding of what Mr. Welch wanted and I tried to convey that in this letter. That was merely to give him Pan American's permission to sell this dipstick to other users. I had no intention of dealing or conveying any possible rights that I may have myself. I was acting purely in the capacity of an employee for Pan American Airways.

The Court: When you developed this particular dipstick, did you have any independent arrangement with Pan American outside of your employment, or did you— [88]

(Testimony of Eugene L. Grindle.)

The Witness: Yes, Your Honor, I have been a design engineer for approximately 19 years now in the aircraft field. With all the companies I worked with before—North American, Curtiss-Wright and Lockheed, I had a contract, a written employment contract with them that all designs of mine would be the property of my employer. Pan American as an airline is not a manufacturer; they have practically no interest in patents or production items themselves. They do occasionally desire to patent items that may be developed by an employee which would be in the realm of competition at the passenger level, such things as passenger comfort items, features, special features on seats and things that the public is exposed to. They have patented them. Now, technical developments—and there have been many by engineers of Pan American—the company looks at such developments and if they choose to patent them, they will. But if they do not, the individual in many cases, and practically all cases of technical developments, has been given that permission to patent himself, with the company retaining what they call “shop rights” which would give them permission to build it themselves.

The Court: Did you have such permission in this instance?

The Witness: At the time, Your Honor, I had not received any such permission. I had not requested such [89] permission. Subsequent to this litigation, I requested a written release from Pan



(Testimony of Eugene L. Grindle.)

American which they gave me. I have received permission on two other items which I have patented, that were developed primarily for aircraft use, which they have given to me completely with not even shop rights retained.

Q. (By Mr. Hohbach): After you placed the order with Mr. Welch, did you do any additional planning for receipt of the dipsticks?

A. I am sorry——

Q. After you placed the initial order with Mr. Welch, did you do any additional planning at Pan American for receipt of these sticks?

A. Yes, I did. As soon as the purchase order was in and a tentative delivery date was established, I immediately prepared correspondence and instructions to the various departments and stations around the world, advising them that the dipstick would be placed into effect and use on August 1st, 1948.

Q. Did you write letters giving these instructions?

A. Yes, I did.

Q. Are these copies of the letters.

A. One of these is a letter dated June 14, 1948, which goes into the story of why we were developing a new dipstick, that the old ones were—calibration was in question, and we wanted an improved type, and so on. And then it covers [90] certain things about revising maintenance and operations manuals and placards that were on there, that were changed as a result of this project.

Q. Did you write that letter?



(Testimony of Eugene L. Grindle.)

A. I wrote this letter, as evidenced by my initials again, in the lower corner.

Q. Who signed the letter?

A. The letter was signed by Mr. Connor for Weesner.

Q. Do you have any other letters?

A. I have another letter here dated June 22, 1948, which was sent to all station managers, all chief mechanics and all flight engineers around the Pacific Division. The purpose of this letter was to advise them that the maintenance manuals would be revised, the operations manuals would be revised and supplies of the sticks would be shipped and the effective date for putting them into use was August 1st, 1948.

Q. Did you write that letter?

A. I also wrote this letter. That is now signed by Mr. Kiester for Weesner.

Mr. Hohbach: I offer these in evidence as Plaintiff's Exhibits 14 and 15. Give Exhibit No. 14 to the letter of January 14, 1948, and No. 15 to the letter of June 22, 1948.

The Clerk: Plaintiff's Exhibits 14 and 15.

(Whereupon letters identified above were received [91] in evidence and marked Plaintiff's Exhibits Nos. 14 and 15.)

Q. (By Mr. Hohbach): When did Mr. Welch promise to deliver the dipsticks?

A. Mr. Welch promised to deliver the dipsticks within three to four weeks and I suspected that we would have adequate time between them and the

(Testimony of Eugene L. Grindle.)

date that they would be placed into effect to get them distributed around the world where they would be used some time prior to August 1st.

Q. Did he deliver them when he had promised?

A. No, he did not. He was having some difficulty, or he told me he was having some difficulty in manufacturing them, and that he would be delayed. He made an advance shipment of the order of some 54 of the original hundred on August 12th which was some two weeks after the deadline that I had set up to put them into effect.

Q. How do you remember those dates?

A. Well, on the date that they were received because it was a new product, the receiving inspector was not familiar with it and he called the design engineer, which is their usual procedure to have him instruct the inspector as to what he should look for, what kind of inspection the item should be given.

Q. Were reports made at the time the dipsticks were received. [92]

A. Yes, as soon as any shipment is received on a purchase order, what is called a receiving report is written on the delivery.

Q. Are these copies of the receiving reports?

A. This copy here is the original one, No. 49986. That is receiving report dated August 12, 1948, for 54 dipsticks, seven of which were rejected.

Q. Now, what does the other sheet state?

A. The other sheet is a receiving report which is issued for the purpose of notifying people why certain numbers were rejected and returning them to

(Testimony of Eugene L. Grindle.)

the vendor. This particular report says that seven of these dipsticks were rejected because scales were improperly located in the tube.

Q. You stated you were called in for receiving these dipsticks. Why were you called in?

A. I was called in because I was the designer; I initiated the requisition and I was called in to advise the receiving inspector as to what type of an inspection he should give them.

Q. And do you remember why those seven dipsticks were rejected?

A. Yes, I do; they were rejected because the calibration was not within the tolerances that we required.

Mr. Hohbach: I offer these in evidence as Plaintiff's Exhibits 16 and 17. Give Exhibit No. 16 to the document that [93] has No. 49700 and No. 17 to the document bearing No. 49986.

The Court: It may be received.

The Clerk: Plaintiff's Exhibits 16 and 17 in evidence.

(Whereupon two receiving reports referred to above were received in evidence and marked Plaintiff's Exhibits Nos. 16 and 17.)

Q. (By Mr. Hohbach): What was done with the dipsticks after they were received?

A. I outlined to the receiving inspector certain things that I wanted him to look for to see that they were acceptable, and actually picked out a couple myself that were to be rejected and showed him

(Testimony of Eugene L. Grindle.)

specifically what I wanted him to look for. Then I took several of them that were acceptable and immediately took them to the equipment shop and showed them what they were and told them they could now draw them from stock and immediately put them on airplanes. I also went out to the flight engineering office and gave them several of them so they could see what it was, because they were the people that would be using them, and left several in that office.

Q. Were the dipsticks put into use immediately?

A. From that day every airplane that left San Francisco left with a dipstick on it, the new type dipstick on it.

Q. Can you describe how the dipsticks that were first delivered by Mr. Welch were constructed? [94]

A. The first dipsticks that were delivered by Mr. Welch were constructed in accordance with my drawing, that is, Plaintiff's Exhibit 8, with the exception of the plugs in the end. The ends were cemented instead of plugged. This cement, because it contains a certain amount of solvent and shrinks as the solvent is evaporated, and the cement hardens, shrinks and distorts the ends of the tube. That is, the square tubing. It sort of draws it in.

Q. Did you note this at the time the sticks were delivered?

A. Yes, I did, and I called it to Mr. Welch's attention at the first opportunity. I believe I called him that same day, and I told him that we were going to accept them but I would like him to do a

(Testimony of Eugene L. Grindle.)

better job on the ends, and asked him at that time why he didn't use the plug in it.

Mr. Hohbach: Mr. Naylor, would you allow us to admit into evidence this time the stick you said was delivered at that time?

Mr. Naylor: Can you identify it?

Mr. Hohbach: Well, in one of the depositions we identified it as one of the sticks that were delivered at that time. It was one of the first ones that was delivered, or it was identical to it; I don't remember which. I remember distinctly it had warped ends on it and you showed it to us in our office.

Mr. Naylor: That's Defendant H for identification on [95] the deposition of Mr. Grindle which I now hand you.

Mr. Hohbach: Are you willing to stipulate that this is one of the first sticks that was delivered to Pan American?

Mr. Naylor: I don't think I can go that far. It was one of the originals, is how we had it.

Mr. Hohbach: What does the stick represent?

Mr. Naylor: As nearly as we understand it, it is a duplicate of the six originally delivered, the batch of 54. Isn't that correct?

Mr. Martin: May I talk?

Mr. Naylor: No. Excuse me, Your Honor.

Mr. Hohbach: You say it is a duplicate?

Mr. Naylor: It was made from that same batch.

Mr. Hohbach: I see.

Q. Does this look like one of the dipsticks that



(Testimony of Eugene L. Grindle.)

was delivered to you by Mr. Welch in the first delivery?

A. Can't see where it's—I can't see where the scale is put together on it. I mean, I am not so sure about the scale, but as far as the construction of the ends is concerned, it is very similar to the first batch that we received.

Q. Can you tell whether this stick had laminated ends?

A. The stick does not have laminated ends. You can see the way the end is shrunk in, that it was a cement process which shrunk and drew the end in slightly. [96]

Q. Does the paint obscure that fact?

A. No, not entirely. The paint, if you look at it from the end, you can see it is impressed there.

The Court: You can see it from here.

The Witness: The other end the same way: it is shrunk slightly. The reason I hesitate to say that that may be the same is that before Mr. Welch had delivered any dipsticks he came to me and said that he had trouble getting a plate made to print the calibration, that it was very costly to him, and he thought he was going to lose a lot of money. And I said, "Well, we have printing facilities here. That is a very small part of the job. I will have the calibrations printed in our shops. We can only print them in a plate. I believe, at the time, fourteen inches long, so you will have to put this on in sections. But I will print that and give you the calibrations printed in our shop." I printed several



(Testimony of Eugene L. Grindle.)

hundred of them and gave them to Mr. Welch to use in the original dipsticks.

Q. (By Mr. Hohbach): Is this one of the printed scales you made?

A. I can't say for sure, but that is not one of those I gave him because ours were shorter and he had to piece them together.

Mr. Naylor: Pardon the interruption. Could we fix a time for the printing of the calibration chart to which Mr. [97] Grindle was referring?

Q. (By Mr. Hohbach): When did you give these calibration charts to Mr. Welch?

A. Well, that I couldn't answer very specifically. It would be some time within the time that we issued our purchase order and he delivered them. That was the first difficulty that Mr. Welch told me he was having.

Q. It was some time after you issued your purchase order, is that right?      A. It was.

Q. Now, you stated that this scale was not made at the Pan American shop, is that correct, as far as you know?

A. Well, if it is printed, it was not made at the Pan American shop. I understood later—and this is hearsay, if I may say—that Mr. Welch had actually bought a plate, but it was ruined very early before he had produced many scales, and he couldn't afford another plate, and that was the way I understood it. That's when I got into it, to print the scales for him.

(Testimony of Eugene L. Grindle.)

Q. That is why he wanted you to make up the scales?

A. Well, he didn't ask me to—I volunteered to make the scales for him.

Mr. Hohbach: I would like to offer this in evidence as Plaintiff's Exhibit 18, as an example of one of the sticks first delivered by Mr. Welch to Pan American. [98]

The Court: Let it be received.

Mr. Hohbach: I understand that is correct from Mr. Naylor's statement.

The Clerk: Plaintiff's Exhibit 18 in evidence.

(Whereupon, dipstick referred to above was received in evidence and marked Plaintiff's Exhibit No. 18.) [98-A]

Q. (By Mr. Hohbach): You state that 54 of the dipsticks were delivered. When were the rest of the dipsticks delivered?

A. They were delivered within about a two or three week period after that. The order was not completed for several weeks, as I recall. I personally was not called in for inspection and consultation any more, because that had already been taken care of on the first delivery.

Q. Was Mr. Welch—strike that.

Was Mr. Welch paid for the dipsticks he had delivered?

A. Mr. Welch came to my office the day that he completed delivery of the dipsticks, and on many occasions he had told me he really needed money, and on the day that he completed his delivery, he

(Testimony of Eugene L. Grindle.)

asked me if I could help him get payment for it, and I was instrumental in him being paid that very day for the sticks.

Q. What did you actually do?

A. I called our Supply Department, told that that if they were received, the last shipment was received, gave them the numbers of the receiving reports and so on, so that they could expedite payment on the purchase order.

Q. Is this a copy of the check by which Mr. Welch was paid?

A. Yes, it is; this is Pan American Check No. 62829. It is dated September 2nd, 1948, in the amount of \$325, plus tax of \$8.13. [99]

Q. And he was paid for 100 dipsticks, is that correct?

A. He was paid for 100 dipsticks.

Q. Did Mr. Welch deliver 100 dipsticks?

A. Yes, he did—in several shipments, not all at once.

Mr. Hohbach: Offer this in evidence as Plaintiff's Exhibit 19.

(Whereupon, check referred to above was received in evidence and marked Plaintiff's Exhibit No. 19.)

Mr. Hohbach: Were additional purchase orders given to Mr. Welch?

A. Well, as far as the C-54 dipstick was concerned, that was now a stock item. It became a stock item as soon as they were accepted and placed in stock. From then on, the Supply Department deter-

(Testimony of Eugene L. Grindle.)

mines over a reasonable period what the usage rate is, and they set a minimum stock order and automatically reorder. So far as my particular job was concerned with relation to the C-54 dipstick, I had no more to do with it. But a month or so after the period we have just been discussing, we received some new airplanes, the Boeing Strato-cruiser B-377, and I immediately—prior, actually, to receiving the airplanes, I requested a fuel tank calibration from Boeing Aircraft Company, and we purchased Boeing dipsticks from Mr. Welch for this new airplane, the same basic design but with different airplane calibrations on it. [100]

Q. And do you know that additional orders were given to Mr. Welch?

A. I myself initiated the order by requisition for the first order for Boeing dipsticks, because, again, it would be a new part number, a new stock item.

Q. What was the price that Mr. Welch quoted on those dipsticks?

A. Well, subsequent to placing the second order and after delivery of the first order, Mr. Welch came to my office one day and said that he was not making out too well, he had actually lost money on these dipsticks at \$3.80, and I said, "Well now, I am not,"—speaking for Pan American, "We are not interested in your making things for us unless you are making a profit on it. It is up to you to set the price for you, and even though we have sort of agreed on a price for this thing, if you are not

(Testimony of Eugene L. Grindle.)

making money, why, you won't be able to supply us very long. So we are not interested in you losing money. So what do you need for it?"

He said, "Well, I don't know." He said, "I don't really have all my cost figures in." And so I said, "Well,"—as a matter of fact, I spent a lot of time on this project, as small as it was, in discussions with Mr. Welch, and I had many other things to do, so I volunteered the price of \$3.80 and asked him if he could make out all right on that. [101]

He says, "Yes, that would be very fine." I says, "All right, we will establish the price at \$3.80."

So the second requisition, which I was instrumental in for the Boeing airplane was issued for \$3.80 each.

Q. What was the next purchase order given to Mr. Welch?

A. That was the last purchase order that I was instrumental in, because from then on they were just set up and reordered automatically by the Supply Department. But some time after he had delivered the sticks for the Boeing aircraft at \$3.80, he again came to my office and said that he still was not making any money, but that he had prospects now of selling to other airlines; I don't believe that he had sold anyone else yet, at this time.

Mr. Naylor: Could we fix the time, Mr. Grindle?

The Witness: This was some time right at the end of the year, the first part of 1949, maybe January or February of 1949, early that year.



(Testimony of Eugene L. Grindle.)

A. (Continuing): And he said, "I am not making any money on it, but I have got the possibility of selling to other people." But he said, "I wonder if we could raise the price again?"

So I said, "Well, Martin, if you are going to raise the price again, I would like you to outline in writing why you feel it necessary to raise the price because," I said, "actually I am working for Pan American and I can't be encouraging [102] you to raise prices. So you will have to do it in writing and it will have to be approved by somebody higher than myself."

So he wrote a letter.

Q. Is this a copy of the letter that Mr. Welch wrote to you?

A. This is the original of the letter he wrote to Pan American Airways, to my attention.

Q. What does he state in the letter?

A. Well, he says that this letter is concerning the present prices quoted for dipsticks, and he went into detail to explain that he had initially quoted without knowing what his costs would be, and that now his costs were in, he found that he was not making money at \$3.80. And since he has gotten into it more now, he can definitely say that in the future he can sell them to us for \$5 apiece.

He explains here that he is going to sell them on a wholesale basis at \$5 to manufacturers and distributors and that he would give us the same price as the wholesale distributors, and that the retail price to other airlines and so on would be \$6.50.



(Testimony of Eugene L. Grindle.)

So this conveyed the fact that we were to get a price consideration of \$1.50 apiece. And his last paragraph said that "We furnish Pan American Airways with dipsticks manufactured to their specifications comparable to the present type in the future at the figure set for the [103] above-mentioned distributor's allowance, that is, net \$5. per stick delivered to your receiving department."

Q. Is this the first time that you had heard that he was going to give Pan American a price consideration?

A. Well, it was my understanding from the very day that I issued a letter or offered a letter, which Mr. Carter actually issued, to Mr. Welch—from June 10th, the date of that letter, I was of the opinion that Pan American, all divisions of Pan American, would be getting a price consideration on this dipstick.

Mr. Hohbach: I offer this in evidence as Plaintiff's Exhibit 20.

The Court: Let it be received in evidence.

(Whereupon, letter from Welch to Pan American referred to above was received in evidence and marked Plaintiff's Exhibit No. 20.)

The Court: We will take the afternoon recess, gentlemen.

(Recess.)

Q. (By Mr. Hohbach): When you were reading that, Mr. Welch's letter of February 10, 1949,

(Testimony of Eugene L. Grindle.)

you were reading the bottom paragraph when he stated that he was going to sell the dipsticks to Pan American for a price less than he was going to sell to other people?       A. Yes, I did.

Q. Did you inform any other divisions of Pan American of [104] this price concession by Mr. Welch?

A. Yes, I did, in a letter that I wrote, that I offered to the other divisions of Pan American Airways shortly after Mr. Welch's letter.

Q. Is this a copy of the letter?

A. Yes, this is a copy.

Q. What does the letter state?

A. Well, the letter actually is covering several facets of the program here on the B-377 fuel tank dipstick. The other divisions of Pan American were also acquiring this type of airplane and would be using the same dipstick. They had questioned in correspondence the practicability of a plastic dipstick. Although we had sent them samples of the original stick that Mr. Welch made for us, they didn't get into the proper hands, and some of the other people had questioned just whether or not they would hold up or not.

So I outlined in this letter that it was a dipstick similar to the type that we had used on our C-54, and I said that the price on this dipstick is now \$5 each to Pan American only, and other users will pay \$6.50 each.

I said, "This special price to us is due to our developmental assistance and will hold firm for all Pan American orders."

(Testimony of Eugene L. Grindle.)

developmental assistance and will hold firm for all

Q. Did you write this letter?

A. Yes, I did, as evidenced by my initials again in the [105] lower left-hand corner.

Q. Who signed the letter?

A. The letter was signed in this case by Mr. Kiester for Mr. Weesner.

The Court: What is the meaning of this sentence:

“This compares with the price of \$15.50 each \* \* \*” I suppose that is Boeing?

The Witness: Yes.

The Court: “\* \* \* for Boeing type \* \* \* and \$9.90 each for the Roylin \* \* \*”

The Witness: Yes, your Honor.

The Court: Are they two different types of sticks?

The Witness: Yes, they are different types entirely. The Boeing Aircraft Company, the designer of this airplane, in the design stages of an airplane the manufacturer deals with various manufacturing companies and both Roylin and Boeing designed a dipstick. We had received samples of those dipsticks. We didn't consider them to be as good as this one, and the price was higher. It wasn't advisable to buy those, and this was just corroborating the fact that the sticks that we were purchasing from Mr. Welch were cheaper than those that we could acquire elsewhere.

The Court: Just as a matter of interest and in-

(Testimony of Eugene L. Grindle.)

formation, these two other types of sticks; are they based upon the same principle and do they employ the plastic [106] construction?

The Witness: No, your Honor, they are both based on somewhat the old principle of the wooden stick. It was black, both of them were black aluminum tubes, a tube that was in one case attached right to the fuel tank cap. The black tube was painted with a sort of a dull black lacquer, so that the wet spot of the fuel would show on it.

Then there were white calibrations on to show how full it was. There was one of those on each tank, also—whereas this one was, one stick was used for all tanks.

Mr. Hobbach: I offer this in evidence as Plaintiff's Exhibit 21.

The Court: It may be received.

The Clerk: Plaintiff's Exhibit 21 in evidence.

(Whereupon, letter referred to above was received in evidence and marked Plaintiff's Exhibit 21.)

Q. (By Mr. Hobbach): How long were you in the engineering department at Pan American?

A. Well, I was in the Engineering Department from my employment, December 1st, 1947, until June 1st, 1949.

Q. What happened to you after June 1st, 1949?

A. June 1st, '49, I was promoted to the job that I now hold, and my title is Technical Assistant to the Chief Flight Engineer.

(Testimony of Eugene L. Grindle.)

Q. What are your duties in this new job? [107]

A. My duties in the new job are to act as a liaison between the Operations Department and the Maintenance Department, and such other departments that we may have to deal with in the operation group. I work directly with the flight crews getting their troubles and so on, and I initiate corrective action, such as redesigns that are necessary, and so on, and refer them to the Engineering Department for accomplishment.

Q. Do you still hold this position?

A. Yes, I do.

Q. Did you have anything to do with the design and procurement of dipsticks after you were transferred in 1949?

A. I don't believe I had anything whatever to do with dipsticks after this last letter that we just introduced.

Q. That is Plaintiff's Exhibit 21.

When did it first come to your attention that Mr. Welch had patented the dipsticks?

A. Well, in September, 1953, the Engineering Department at my initiation, or I initiated the project for them to make a calibration check of the fuel and tank quantities of the B-377 aircraft. We were at this time intending to operate a long-range flight non-stop from Tokyo to Honolulu, and needed all the fuel tank capacity that we could get, to determine whether we could, how often we could operate that way. [108]

So we had had some question about whether the



(Testimony of Eugene L. Grindle.)

tanks held as much fuel as they were placarded to hold, so we had requested Pan American engineering to make a special calibration test, and I was called in to witness this test as an official observer—it is one of my jobs to see that the test was conducted the way we requested it.

Q. Who called you in on the test?

A. I was called in by Mr. Dick Burfiend, who was in charge of the test.

Q. How were you called in to the test?

A. He called me on the telephone early one morning to tell me that the airplane would be set up, I believe he said, at ten o'clock that morning, would be set up to start the calibration test, and would I be at the site at that time.

Q. Did you arrive at the site at the appointed time?

A. Yes, I did, at the appointed time Mr. Burfiend, when I arrived at the airplane, was up on top of the wing and he had one of Mr. Welch's newer dipsticks with him. He actually had several dipsticks, which we were using to cross-check the calibration.

And as I arrived out to the airplane, he said, "Hey," he said, "I see Welch got a patent on a dipstick."

Q. What did you say?

A. Well, I might have uttered somewhat of a profane remark and I said, "Could I see it?" So he threw it down on [109] the ground, I looked at it, I recorded the patent number on it. That was my



(Testimony of Eugene L. Grindle.)

first knowledge that there was a patent on it or even applied for.

Q. Did this come to you as a complete surprise?

A. As a complete surprise.

The Court: What date was that?

The Witness: September 28, 1953.

Q. (By Mr. Hohbach): How do you fix that date, Mr. Grindle?

A. I fix the date because I had recalled the incident and I went to Mr. Burfiend to see if he recalled it, and he did. He dug into his test data file, his records, and produced a document which was dated September 28, 1953, and on which he outlined what the test was for and the fact that he had called me in to witness it.

Q. And do you remember yourself approximately when this test took place?

A. Yes, I do, very definitely.

Q. Had Mr. Welch ever mentioned to you that he was going to patent the dipstick?

A. He did not.

Q. Had it ever come to your attention that Mr. Welch had marked "Patent pending" or a patent number on the dipstick before this date?

A. Never had. I had no—not even the remotest knowledge that he was patenting it or even thinking of patenting it. [110]

Q. Does Pan American still use the dipsticks supplied by Mr. Welch?

A. Yes, they do. The dipstick is still a good,

(Testimony of Eugene L. Grindle.)

functional device. To date I haven't seen anything any better.

Q. Are they still buying dipsticks from Mr. Welch?

A. They will still buy them as long as he is the only producer.

Q. Why are they buying them from Mr. Welch?

A. They are buying them from Mr. Welch because he is the only one that produces them.

The Court: Paying the same price for them now?

The Witness: I didn't take the trouble, your Honor, to—I knew that Mr. Welch had delivered some dipsticks approximately a month ago. I did not inquire as to what he billed them at. I have that available to me if I would ask for it, but I just assumed he was still charging \$12.50.

Q. (By Mr. Hohbach): After you discovered the patent number, what did you do?

A. Well, at the moment I stayed there and witnessed the completion of these tests, and as soon as I was free——

Q. Could you describe what took place in this test from your memory?

A. Well, the purpose of the test was to check the calibration. We had all this time used the original manufacturer's calibration on the tanks and had never actually checked it. [111] So we had set the airplane in the normal ground attitude condition with the wings lateral and level and the fusilage 2 degrees tail down, which was the basis of the airplane configuration for the calibration.

(Testimony of Eugene L. Grindle.)

We then drained all the fuel down to the outlet level, and we stopped at that point and made sure that no more fuel could be supplied to the engines from that outlet, and then we drained the sumps in the airplane to determine what is called "unusable fuel" in a tank, because unusable fuel is down below the level that can be fed to the engines in certain attitudes of the airplane, and the dipstick that was—it has always been specified that a dipstick or any fuel measuring system on an airplane must only account for usable fuel, fuel that can actually go to the engines.

There was a total of some 50 gallons of fuel on this airplane that is unusable.

So that preliminary figure had to be determined first. Once that was done, we started filling the tanks on opposite sides of the airplane in equal increments, 20 gallon increments, and taking quantity readings with the dipsticks, and the airplane fuel gage system, and calibrated all the tanks on the airplane.

The calibration turned out to be very close to what—that is, within practical repeatability of airplanes, so that we did not change the [112] calibration.

Q. And as soon as you completed the test, what did you do?

A. Well, as soon as the tests were completed and I had a free minute, I had become rather annoyed in my mind with the fact that Mr. Welch had patented this thing, I was familiar enough with

(Testimony of Eugene L. Grindle.)

patents to know that an inventor had to swear that it was his invention, and it rather annoyed me to think that anyone would do that with this item.

So I went to the files and dug out the old files which had actually been inactive from the time that I had last been on the project, and until Mr. Burfiend had started this calibration test.

I dug out all the old correspondence on it, I went to the Supply Department and had them initiate and request from our other divisions an accounting of how many sticks they had bought and what they had paid for them since the price was raised from \$5.

Q. Had you done anything before this, before you started doing this?

A. Had I done anything? Well, yes, I called Mr. Welch on the phone the first opportunity I had and asked him what the idea was of him patenting it.

Q. What did Mr. Welch say?

A. I was informed in no uncertain terms that, what business was it of mine? That it was his invention, and what was I inquiring about it [113] for?

Mr. Naylor: Could we fix a date for this?

Q. (By Mr. Hohbach): Approximately when did you——

A. Approximately the first of October. I recall that when I tried to call Mr. Welch first, I talked to his secretary in the city here. She said he was not in town, and I left a message for him to call me, to

(Testimony of Eugene L. Grindle.)

return my call, which he did in a matter of two or three days.

So it was probably the first week in October that I talked to Mr. Welch—1953.

Q. That's when you asked him about patenting the dipstick, is that correct? A. Yes, it is.

Q. What did Mr. Welch say?

A. Well, I don't recall his exact words, but in essence he said that it was none of my business, that it was his invention and what right have I got to question him.

Q. What did you do after that?

A. Well, I then went to our Supply Department, because I had dug out this old letter, last letter from Mr. Welch, stating that in the future he would sell to Pan American for \$5.

So I took several weeks, actually, to get an accounting from the other divisions, and that was about a two-year period involved there, and in that two-year period there were overcharges of over \$10,000 to Pan American Airways over and above the \$5 that was stipulated in Mr. Welch's [114] letter.

Q. What had Mr. Welch charged Pan American Airways for the dipsticks?

A. Well, at the time he was charging \$12.50, but it had gone up gradually from the \$5 level shortly after I left the engineering department, it had increased gradually and if it had gone at that time to the \$12.50, why, the overcharges would have been considerably more.



(Testimony of Eugene L. Grindle.)

Q. Were you aware before this time that Mr. Welch had increased the prices on the dipsticks?

A. I had no knowledge of it whatsoever. I had seen Mr. Welch occasionally from time to time, just in passing.

I might say that in the first year or so after I had met Mr. Welch, we were a little friendly. I saw him socially at his home, he was at my home. And I had never at any time been informed by Mr. Welch or even had any knowledge whatsoever that he had raised the price above the \$5. I thought we had an agreement that was still being in effect.

Q. Did you see the Legal Department of Pan American?

A. Yes, I did. Once the information was in from the other divisions, I went to our legal officer, Mr. George Fox, and gave him the file and told him briefly what my story was on the thing, gave him the correspondence and the figures from the Supply Department.

As a matter of fact, the Supply Department directly gave [115] the information to Mr. Fox. And he had it for several weeks, I believe, being quite busy, and when he got to it, he reviewed the file. He called Mr. Welch in, talked to him, I believe, on two separate occasions.

I had said something about this being the original drawing—and I pointed to Plaintiff's Exhibit 8. Mr. Welch said that that was not the original drawing, and said that he would go to Los Angeles, where



(Testimony of Eugene L. Grindle.)

he thought he could produce an original drawing. And he came back with three copies of this drawing here, Plaintiff's Exhibit—that small——

Q. You are referring to the extrusion——

A. The small extrusion drawing.

Q. Plaintiff's Exhibit 6?

A. Yes. And he said that that was the original drawing, not Plaintiff's Exhibit 8.

Well, I may have been remiss in not mentioning that there had been a previous drawing on an extrusion, but this was the initial drawing on a complete dipstick.

Q. What did Mr. Fox do?

A. Well, after looking into the situation more thoroughly then, he found that each time that Mr. Welch had increased the price of the dipsticks, he notified our Supply Department of the increase, they issued a purchase order subsequent to his notification of the increase.

Mr. Fox considered that was tacit approval for the [116] increase, and that we, as Pan American, had no recourse to recovering overcharges.

Q. Did the Supply Department know about this price agreement in Mr. Welch's letter?

A. No, that's where I was very negligent in my—I suppose—responsibility, in that I myself had negotiated this arrangement with Mr. Welch, but I did not follow up to advise the Supply Department either in our division or in the other divisions that we had this agreement with Mr. Welch. I just as-

(Testimony of Eugene L. Grindle.)

sumed that it would be lived up to, that there would be no change in it.

Q. Did the Legal Department of Pan American take action against Mr. Welch?

A. No, they decided that the question of overcharges, that there would be no recourse for them to recover overcharges, and said that if I was interested in pursuing the thing from the patent standpoint, that I could do that myself, it would be my own responsibility and at my expense; that they wouldn't prosecute a patent case.

Q. What did you do after that?

A. This time, now, there were several months that had elapsed here from the time that I first learned that it was patented until I spoke to my attorneys, but at some time, I believe, in the early part of 1954, when I was in my attorney's office, on some other patent business, I [117] mentioned this case to them, and they asked me to bring in certain files so they could look at the thing, and that was the initial effort to take legal action against Mr. Welch.

Q. After this time did you participate in a conference with Mr. Welch?

A. Yes, I did. After a letter had been written by my attorneys to Mr. Welch demanding the assignment of the patent to me, which they replied and refused, my attorneys requested a personal conference between the principals in the case, Mr. Welch and myself, and respective attorneys, to discuss the situation.

(Testimony of Eugene L. Grindle.)

Q. Who was present at this conference?

A. Present at this conference were Mr. Bruce Freitas, Mr. Welch's attorney, Mr. Welch, Mr. Paul Flehr, Mr. Harold Hohbach, my attorneys, and myself.

Q. Do you remember the discussion that took place during this conference?

A. Yes, the discussions revolved generally about a followup of the initial letter demanding assignment of the patent. They were again asked if they would give an assignment of the patent, they said they would not, and in the course of the discussion Mr. Flehr, my attorney, asked Mr. Welch if he would prosecute me or bring an action against me if I were to produce the type of dipstick contained in Plaintiff's Exhibit 8. [118]

Mr. Welch informed us very definitely that he would prosecute me if I did.

Q. What did Mr. Welch say?

A. Well, he said, he got up and waved his hand pointed at this drawing, Plaintiff's Exhibit 6 I believe it is, and said that I could produce that one if I wanted, but if I produced this one he would sue me (indicating).

Mr. Naylor: Could we establish what is meant by "this one"?

The Witness: That's Plaintiff's Exhibit 8.

The Court: 8.

Mr. Naylor: Thank you.

Q. (By Mr. Hohbach): Do you intend to manufacture and sell dipsticks?

(Testimony of Eugene L. Grindle.)

A. Yes, I do. I have held off this long because of the threat of possible legal action. My stockholders in my company have authorized me only to go so far in this program to manufacture them, and I have produced a production model of five different airplane dipsticks, and I am all ready to go.

Q. When did you first form this intent to manufacture and sell dipsticks?

A. Well, I more or less definitely formed the intent to manufacture the dipsticks at the time that I learned that Mr. Welch's excessive charges for the item to Pan American—when I learned of that. Pan American at the time of this investigation had their shops, they sent copies of this [119] drawing, Plaintiff's Exhibit 8, and samples of Mr. Welch's dipsticks to the shops and asked them to quote on manufacturing them in our shops, and because Pan American employees are on a very high pay scale and we have a high overhead, they determined they would just continue to buy them from Mr. Welch, rather than to make them themselves.

So at that time I decided that I would be interested in making them and selling them to Pan American, and anyone else that I could. And I had certain ideas at the time for improvements, things that have been—deficiencies in Mr. Welch's sticks, in my opinion all the time, and that I could improve and make a better stick out of it.

Q. Do you still have the intent to go ahead and manufacture and sell dipsticks?

A. Yes, I have, very definitely.

(Testimony of Eugene L. Grindle.)

Q. Does the dipstick you intend to manufacture incorporate the features shown in the drawing, Plaintiff's Exhibit 8? A. Yes, it does.

Q. Why haven't you gone ahead and manufactured and sold dipsticks?

A. Well, purely because the only West Coast supplier of the square extrusion to be used is Mr. Welch's company in Los Angeles. I wrote to them several times asking for quotations. I was told by a source that I have that my correspondence was referred to Mr. Welch, and I never received [120] a supply from them. I was also informed how to go about getting price quotations from the Plastics Process Company without going through Mr. Welch, which I have done, and I have received price quotations, and I am ready to order.

The only thing I am holding back on is the fact that in purchasing plastic extrusion, you have to purchase large amounts—quantity production. They are not interested in selling small amounts unless they charge a set-up charge, and it is an excessive cost per foot.

Q. Why haven't you gone ahead and ordered this plastic extrusion?

A. Well, primarily because it involves the expenditure of several thousand dollars, and I didn't want to go to that expense and also be faced with possible legal action from Mr. Welch.

Mr. Naylor: Could I hear that last answer, if the Court please?

The Court: Read it, Mr. Reporter.



(Testimony of Eugene L. Grindle.)

(Record read.)

Mr. Naylor: Thank you.

Q. (By Mr. Hobbach): What was the main reason you haven't gone ahead and manufactured and sold dipsticks?

A. Well, one of the main reasons is that the dipstick that Mr. Welch has, has a patent number on it. That would be a difficult thing to overcome, except possibly with my own [121] or contacts that I have in the aircraft industry. It would be a little difficult for me to come in and sell an idea essentially similar to that which Mr. Welch produces and which has a patent number on it.

Q. Have you been threatened with an infringement suit if you go ahead and manufacture?

A. It was definitely threatened, I was definitely threatened with an infringement suit by Mr. Welch.

Q. Upon what do you base this?

A. I base that on the verbal words of Mr. Welch during this conference in my attorney's office.

Q. Do you have any resources and facilities to manufacture and sell dipsticks?

A. I have adequate resources to manufacture and sell dipsticks.

Q. Do you have a corporation?

A. I have a corporation that has been formed for the last five years now.

Q. What office do you hold in that corporation?

A. I am the president of the corporation.



(Testimony of Eugene L. Grindle.)

Q. And the corporation has any assets, does it?

A. The corporation has considerable cash assets.

Q. Would you mind telling what the cash assets are?

A. Approximately \$11,000.

Q. Is that adequate to commence—strike [122] that.

Is that adequate to produce and manufacture dipsticks?

A. In large quantities.

Q. Does the corporation intend to use the assets for the manufacture and sale of dipsticks?

A. Yes, they do.

Q. Does the corporation have the right to manufacture dipsticks?

A. The corporation has a verbal authorization from me to manufacture the dipsticks.

Q. Has the corporation worked on such a basis before?

A. Yes, they have. They have produced this aircraft vibrometer, on much the same arrangements.

Q. Does the corporation at the present time manufacture and sell the vibrometer?

A. Yes, they do. I am selling aircraft vibrometers to the Air Force, the Navy and many other airlines.

Q. Is this the vibrometer?

A. Yes, it is. This is one of my later models of this vibrometer. It has a plastic case with laminated enclosures on it, and so forth.

Q. How long have you been selling that vibrometer?

A. I have been selling this vibrometer for ap-

(Testimony of Eugene L. Grindle.)

proximately, well, either two or three years—I believe three years.

Q. To whom have you sold this vibrometer?

A. I have sold it to Pan American Airways, to the Air Force, [123] the Navy, CAA, Eastern Air Lines. It is an item that has received great publicity in certain trade magazines and so on, and I am just recently getting many inquiries. Much interest is shown in it.

Q. You have a sales organization set up to sell the vibrometers?

A. Well, at the present time I have been doing most of the selling myself, but I have associates with me who are essentially in the sales field.

Q. Would the same sales organization be used for selling the dipsticks?

A. Yes, with again calling on exactly the same customers for both items.

Mr. Hohbach: I offer this in evidence as Plaintiff's Exhibit 22.

The Court: It may be received.

The Clerk: Plaintiff's Exhibit 22 in evidence.

(Whereupon, vibrometer referred to above was received in evidence and marked Plaintiff's Exhibit 22.)

Q. (By Mr. Hohbach): What has been done toward readying the corporation for manufacturing the dipsticks?

A. Well, I have produced the scales, graduation scales for several different airplanes—five, to be

(Testimony of Eugene L. Grindle.)

exact—and have made master templates to produce additional scales as required, and I have [124] produced——

Q. Did that require considerable expenditure?

A. Yes, it did.

Q. Would you mind telling us approximately how much?      A. Approximately \$500.

Q. What else have you done?

A. I have also manufactured tooling to make certain parts of the dipsticks and special jigs for accurately assembling them.

Q. Have you solicited quotations for the plastic extrusions?

A. Yes, I have complete quotations on all parts of the dipstick.

Q. Have you made a production model?

A. Yes, I have made several of the production models.

Q. Are these your production models?

A. Well, they are, with the exception that I have left one end slightly different here to illustrate the different types of plugs that can be put in in the end piece to strengthen it and seal it. With that exception. They are not painted on that end. With that exception they are not a production model.

Q. Would you describe which one has which end plug with reference to the color coating?

A. Yes, this C-54 stick with the yellow color coating has solid  $\frac{3}{16}$ ths inch plug in it, as called for initially on the drawing, Plaintiff's Exhibit 8. So this is constructed [125] in exactly the manner

(Testimony of Eugene L. Grindle.)

called for on that drawing. You can see the end is a solid  $3/16$ ths inch plug. I actually polished, buffed the end so you could see clearly that it was just one piece and that there was a good cement seal around it. There is a little deformation on that end, due to the buffing, trying to clear it up so you could see through it. This other one here——

Q. That is the one with the blue marking on it, is that correct?

A. This is the DC-6B model, with the blue marking, is essentially the same except that the end is now, instead of one solid piece, is laminated from three  $1/16$ th inch pieces; visually they look almost identical. The cement I use is a clear cement. When it adds up, the three pieces are actually molded or laminated into one solid piece, one homogeneous mass.

Q. Are these production dipsticks substantially identical to what is shown in your drawing, Plaintiff's Exhibit 8?

A. They are, except that they have an improved type calibration marking on them, a method I developed that would provide a much more accurate calibration than you can achieve by the method explained in this drawing.

Q. Do the ends differ from what is shown on the drawing?

A. The ends differ only to the extent that the  $3/16$ ths inch plug is exactly the way the drawing was initially, [126] but in its present state with the A change incorporated, the drawing now calls for

(Testimony of Eugene L. Grindle.)

cement in the end, 3/16ths of an inch thick, instead of a plug. However, I would like to point out that putting cement in 3/16ths of an inch thick is essentially the same as putting in a solid plug, because when a cement hardens, it is a solid, homogeneous mass.

Mr. Hohbach: I would like to offer these sticks in evidence, marking one as Plaintiff's Exhibit 22, we will put that on the——

Mr. Naylor: The vibrometer is 22.

The Clerk: No, the vibrometer is—oh, yes.

Mr. Hohbach: 23, then. The one that has the yellow mark has Plaintiff's Exhibit 23, and it is for the C-55 plane.

On the other one, that will be Exhibit 24, and that has a blue marking. It is for the DC-6B.

(Whereupon, dipsticks referred to above were received in evidence and marked Plaintiff's Exhibits 23 and 24.)

Q. (By Mr. Hohbach): Have you expended time and money in addition to that expended by your corporation?

A. Well, I have devoted, I would say, all of my free time away from Pan American—that is, my own time away from Pan American—for the last six months or so, working on this program, raising finances, producing exhibits and samples and getting set up for production of the stick.

Q. Have you done anything prior to that? Had



(Testimony of Eugene L. Grindle.)

you done [127] anything prior to that in connection with the dipstick?

A. I am sorry, I don't understand.

Q. Had you done anything prior to that in connection with the production of the dipstick?

A. In connection with production of the dipsticks? I had solicited quotations and things from people, but I wasn't successful in getting the quotation from Mr. Welch's company. I did receive a quotation from an eastern manufacturer that makes the same square tubing, but it turned out later that it would be about the same cost to me to purchase material in the east and ship it out here as it would to buy it in Los Angeles and ship it to San Francisco. So my source of supply wouldn't be important from a cost standpoint. The cost would be about the same, and the minimum quantities that they are interested in are the same.

Q. Has your production model been improved by Pan American?           A. Yes, it has.

Q. Have you been able to obtain any orders for your dipsticks?

A. I have not actually obtained or accepted orders for the dipsticks, primarily because I am not at this moment able to produce them. I have not expended the money to purchase supplies.

Q. If you had been able to sell dipsticks from the time that you originally had the intent to sell dipsticks, how many dipsticks do you think you could have sold during that [128] period of time?

Mr. Naylor: Could we first fix the time when



(Testimony of Eugene L. Grindle.)

this gentleman first had the intention to sell dipsticks?

The Court: Did you fix the time?

Mr. Hohbach: I think we did.

Q. Will you state when you fixed the time?

A. Well, I would say that the time was approximately October, 1953, about the time that Pan American had made their cost study and decided that they would still purchase the sticks rather than manufacture them in their own shops. It was just at that time, the middle or latter part of October, 1953, that I became interested in manufacturing them myself.

Q. Would you have been able to manufacture and sell dipsticks at that time if you——

A. I would have been able to manufacture them as far as my facilities and ability was concerned, but financially I didn't have the resources to expend the money that would be required to purchase materials.

Q. When did you have the sources, or when do you think you would have been able to go ahead and manufacture and sell dipsticks?

A. Well, if it hadn't been for—let's see. I have an association with a group down the Peninsula that has financed me on several ventures, and I had discussed this program with them and was interested in them financing it for me. [129] They said they would be very glad, it looked like it would be a good product. They liked the thing, and it looked likely I could make money on it. I had an

(Testimony of Eugene L. Grindle.)

indication of prices at the time. They said they would put—they would put the money in, that they would like to proceed with a lawsuit and get it out of the way so that that wouldn't be hanging over the corporation's head. They were the ones that felt it would be a little difficult to sell this item in competition with Mr. Welch when he had a patent number on it.

Q. Can you give us an approximate date as to when, if you had been free of the Welch patent, that you could have started selling and manufacturing the dipsticks?

Mr. Naylor: I am sorry, I did not hear that question because of the airplane passing overhead. May I have it read back, your Honor?

The Court: Read it, Mr. Reporter.

(Question read.)

A. Now, if I had started at the time that I became interested in doing that, which would be in October, '53, within 30 days after I had started, if I had been free of the patent situation, I would have been producing dipsticks.

Q. (By Mr. Hohbach): Well, starting from that period, how many dipsticks do you think you would have sold up to the present time?

A. Well, I have made a very, what I consider a very [130] conservative estimate, canvassed the field, and I believe that I could sell about 3,500 dipsticks a year.

Q. To whom would you——

(Testimony of Eugene L. Grindle.)

A. Considering that I would be in competition with Mr. Welch.

Q. To whom would you have sold these dipsticks, or do you think you could have sold dipsticks?

A. I would have sold them to the air force, to the government aircraft airline agencies, to other airlines and manufacturers, as well as foreign operators.

Q. Could you have sold them to Pan American?

A. Absolutely.

Q. Why do you think you could have sold them to Pan American?

A. I have been told that they would buy the dipstick from me.

Q. Have they purchased the vibrometers from you?

A. Yes, they have. They have been, for three years.

Q. If you were able to show them that you are ready to go into production, you could have gotten orders from Pan American?

A. I believe I can receive a Pan American order——

Mr. Naylor: Your Honor, this is highly speculative: every question is based upon an assumption of a fact that cannot be established here.

The Court: I will allow the question. You may answer it. [131]

Mr. Hohbach: I didn't understand, your Honor.

The Court: I say I will allow the question, but I believe the witness has answered it already.

(Testimony of Eugene L. Grindle.)

Q. (By Mr. Hohbach): You think you could have sold to other airlines?

A. Well, I am again very certain that I could have. As a matter of fact, Mr. Welch's success in selling these dipsticks has been partially due to assistance—not that I gave him, but recommendations that I gave this dipstick to the industry. A very close friend of mine, who worked with me at Pan American at the time that I developed this dipstick, is in a responsible position in Lockheed, and was instrumental in Lockheed purchasing dipsticks from Mr. Welch. As a matter of fact, he thought at the time that Mr. Welch was paying me royalties on it, or at least paying me some consideration for it.

Q. Is that individual still at Lockheed?

A. Yes, he is.

Q. What would have been your profits on these dipsticks?

A. Well, I can manufacture the dipstick at a total cost to me of less than \$2 apiece, and I consider that my selling expenses would be approximately \$2 apiece. If I sold them, therefore, at the same price that Mr. Welch sells them, I could make approximately \$8 profit on it.

Q. Are you familiar with patents? [132]

A. I am fairly familiar with patents, yes. I have had some experience.

Q. What was your first contact with patents?

A. My first contact with patents was when I was working for my father back in 1934 to '39.

(Testimony of Eugene L. Grindle.)

During that five-year period there were eight patents acquired by that company under my father's name, two of which were my design, my invention, but they were patented in my father's name. The first——

Mr. Naylor: May I have that answer?

The Court: “\* \* \* patented in my father's name.”

A. (Continuing): The first patent that was actually applied for in my name was when I was employed with North American Aviation. It was on this automatic retractable door. They applied for a patent. I never did know whether they actually were issued a patent on it.

At North American I also developed a special hydraulic valve, which I believe, I am quite sure they did patent—had “Patents pending” on it. They sold it later to another company.

And the next patent experience was on this vacuum cleaner that I developed here about 1950, or applied for a patent on it in 1950, and your firm, with Mr. Swayne, have been handling that patent for me.

Q. (By Mr. Hohbach): You filed several patent applications? [133]           A. Yes, I have.

Q. Are you familiar with the general prosecution of patent applications?

A. Yes; I believe I am.

Q. Have you studied the Welch patent?

A. Yes; I have.



(Testimony of Eugene L. Grindle.)

Q. You understand the specifications?

A. Yes.

Q. Do you understand the claims?

A. Yes; I do.

Q. Has the defendant admitted a claim——

The Court: I didn't hear that question.

Q. (By Mr. Hohbach): Had the defendant admitted that Claim 1 is invalid?

A. Yes, he did, in an answer to our complaint. He admitted that Claim 1 was invalid, due to public use.

Q. For what reason?

A. Due to public use; it had been in use for more than one year before patent was applied for.

Q. I hand you a soft copy of the patent.

A. Yes; I am familiar with it.

Q. How does Claim 2 differ from Claim 1?

A. Well, in Claim 1, it essentially covers the incorporation of solid blocks in the end of the dipstick to seal it and strengthen the end. In Claim 2 it calls for a block in the [134] end made up of laminated sections, exactly the same shape as the block in Claim 1 but made up of several layers rather than one solid piece.

Q. Do these laminated sections perform the same function as the block shown in your drawing, Plaintiff's Exhibit 8?

A. They do exactly, as far as strength is concerned. It is exactly the same structural characteristic as a solid piece. There is a possibility, if they are not installed carefully, that they may induce



(Testimony of Eugene L. Grindle.)

air pockets in the thing, but if they are installed properly, you end up with a homogeneous mass exactly the same as a solid block.

Q. Did Mr. Welch have access to this drawing before he filed the patent application?

A. Yes, he did. Mr. Welch had access to that drawing early in June, 1948.

Q. How would you make up such a block——

Mr. Naylor: Excuse me, Mr. Hohbach. What drawing are you referring to?

The Witness: Plaintiff's Exhibit 8.

Mr. Naylor: 8.

Q. (By Mr. Hohbach): How would you make up such a block as is shown in your drawing, Plaintiff's Exhibit 8?

A. Well, I outlined a little earlier that there are numerous ways of making a block of that type, and the way you would make them would be more dictated by the production that [135] you would anticipate. The preferred way, in my estimation, in mass quantity, would be to mold it so you would have no work, no hand work whatsoever to do on the block.

In the limited quantities that are involved in this thing, several thousand a year, it would probably be cheaper in the long run to stamp them of thin sheet and laminate them together.

Q. Would you read the language in Claim 2 that makes the difference from Claim 1?

A. On Claim 2 it says:

(Testimony of Eugene L. Grindle.)

“\* \* \* and laminated plugs hermetically sealing the opposite ends of said body and consisting of superimposed layers of sheet material fitting the contours of said ends with adhesive cement interposed between said layers which will exude and adhere to said body when said plugs are compressed against the ends of said reinforcing bar.”

Q. Now, what is the same language in Claim 1 that calls for that same structure? Could you point that out?

A. Yes; in Claim 1 it says:

“\* \* \* and plugs in the opposite ends of and hermetically sealing the end of said body against the entrance of liquid within said body surrounding said measuring tubes.” [136]

Both claims involve the plugs in the end of the stick.

Q. Claim 2; what does Claim 2 do then? Does it actually——

A. Claim 2 merely installs the plug in laminated layers rather than in one piece.

Q. Does a plug in laminated layers perform the same function as a solid plug?

A. Yes; it does.

Q. What if you just put cement in the end, like in the first dipstick that Mr. Welch furnished?

A. That would also serve exactly the same purpose, as far as strength. The only problem is that

(Testimony of Eugene L. Grindle.)

it would distort the end slightly. They could still be produced that way and be perfectly satisfactory. They are just as functional as putting plugs in.

Q. Is the use of laminated plastics well known to people working in the plastic business?

A. Well, I believe that it is well known to anyone in mechanical work that has worked with plastics at all or even other materials. It don't have to be plastics for an expert to think of lamination or laminating plastics.

Q. Is it your opinion, to form a block of material from several layers of material would merely be a mechanical expedient?

A. I am definitely of that opinion.

The Court: We will take the recess now, [137] gentlemen.

What is your pleasure for tomorrow morning? 9:30 or 10:00? It doesn't make any difference to me.

Mr. Naylor: 9:30 is agreeable.

The Court: 9:30.

(Whereupon, an adjournment was taken until Thursday, February 9, 1956, at the hour of 9:30 o'clock a.m.) [137a]

Thursday, February 9, 1956—10:00 A.M.

The Clerk: Eugene Grindle v. C. Martin Welch,  
on trial.

EUGENE GRINDLE

resumed the stand; previously sworn.

Direct Examination

(Continued)

By Mr. Hohbach:

Q. Mr. Grindle, I hand you Plaintiff's Exhibit 2, which is a soft copy of the Welch patent.

Mr. Grindle, have you finished telling us how Claim 2 would differ from Claim 1 yesterday afternoon?

A. Well, I believe that I fairly well finished that, but, if I may, I will review briefly what I think the difference is.

Q. Why don't you do that?

A. Well, in Claim 1, the claim centers around the end plugs. It calls for inserting plugs in the opposite ends and sealing the ends to the body of the dipstick. And Claim 2 calls for plugs consisting of superimposed layers of sheet material other than a solid plug, and sealing the plugs to the body of the housing. That is essentially the difference in 1 and 2.

Q. Did you state yesterday afternoon whether you thought that amounted to invention?

A. I stated that I didn't think it did; but that would be a common shop practice to substitute laminations for a solid [138] plug.

(Testimony of Eugene L. Grindle.)

Q. How does Claim 3 differ from Claim 1?

A. Claim 3 is similar to Claim 2 in that it calls for superimposed layers of plastic and cemented to the body of the dipstick and then calls for drilling a hole through the center of these plugs and driving a nail through the laminations into the wood to hold the laminations in there while the cement is hardening.

Q. How does it actually differ from Claim 2, then? Can you tell us that?

A. Well, it differs from Claim 2 only to the extent that they drive a nail—drill a hole and drive a nail through the plastic laminations into the wood. And it says that the purpose of this nail is somewhat of a dual purpose: One, to hold the dipstick off of the bottom of the fuel tank and prevent sediment from getting into the dipstick, and it also serves the purpose of holding the laminations together.

Q. Where did you find that information?

A. Well, it is in the specifications primarily.

Q. Has Mr. Welch within your knowledge ever manufactured and sold such a dipstick?

A. I don't know if Mr. Welch has ever manufactured a dipstick with a nail in it, but I could just about guarantee that he would never sell one if he had.

Q. Why wouldn't he be able to sell it? [139]

A. Well, there are several reasons. One is that if the nail was in the bottom of the stick, of course, the graduations would have to be placed in the stick

(Testimony of Eugene L. Grindle.)

with respect to the nail in the end. Also wherever Mr. Welch got the idea that there was sediment in the fuel tank, he was completely misinformed because there is no such thing. Fuel tanks are very clean all the time. They have to be. The fuel is filtered numerous times before it gets into the tank through micronic filters, water separators; we have very fine screens in the fuel system in the airplane, and if there were any sediment whatsoever in a fuel tank, it would be way at the inboard end and not up at the outer end where the dipstick is used.

Q. Is there any objection to the use of a nail?

A. The objection to the use of a nail is that it would be completely prohibited on an airplane because of the fact that a spark could ignite and blow up the airplane.

Q. If the nail did perform a useful function, would the use of a nail in this manner amount to invention?

A. I think the use of a nail to hold a laminated structure is very common throughout all trades and wouldn't consist of an invention, in my estimation.

Mr. Hohbach: Your Honor, that concludes the direct examination of Mr. Grindle.

The Court: Cross-examine, Mr. Naylor. [140]



(Testimony of Eugene L. Grindle.)

Cross-Examination

By Mr. Naylor:

Q. I understood you to say yesterday, Mr. Grindle, that you had a familiarity with patents.

A. Somewhat, yes.

Q. What do you mean, "somewhat"?

A. Oh, for about the last twenty years or more I have studied patents to some extent, had some close association with them with my father and with my own work later.

Q. I understood you to say yesterday that you were familiar enough with patents to know that the inventor had to sign an oath; is that correct?

A. I don't know that he had to sign an oath; I know that you have to swear to an oath and that you sign the application.

Q. And that an oath had to be made?

A. Correct.

Q. Now, I take it from that that you have executed personally one or more patent applications?

A. Yes, I have.

Q. How many have you executed?

A. Three.

Q. And when was the first one?

A. The first one was about 1939.

Q. And when was the last one?

A. The last one was 1955. [141]

Q. And I take it that you carefully read the oath before you made it? A. Yes, I did.

(Testimony of Eugene L. Grindle.)

Q. In connection with each of those applications, did you not?      A. Yes, I did.

Q. Are you familiar with the recitals in the statutory patent oath?

A. I know that the oath was read to me and I swore to it, if that is what you mean.

Q. And did you read the oath forming a part of the first patent application that you executed or was it read to you?

A. It was read to me, as I recall.

Q. I direct your attention to Plaintiff's Exhibit 1, which is the file history of the Welch patent application, and specifically to page 8, and calling your attention to lines 16 to approximately 19, I will ask you if you will read that, please?

A. Do you want me to read this aloud?

Q. No; I just want to ask you to read it, and then when you have read it I would like to ask you if you see a reference in that oath to an affirmative statement that the invention has not been in public use or on public sale for one year prior to the filing of the application.

A. Would you repeat that question? [142]

Q. After you have read the part of Plaintiff's Exhibit 1 to which your attention has been directed——      A. Yes.

Q. ——I would like to ask you to answer me as to whether you find in that oath an affirmative allegation that the invention has not been in public use or on public sale for more than one year prior to the filing of the application.

(Testimony of Eugene L. Grindle.)

A. I don't see any reference to—yes, I do.

Q. You do?

A. I see that it says that it wasn't—whoever was going to swear to this oath stated he did not know prior to one year that it had been in use.

Q. No; you were familiar with that as early as 1939, were you not?      A. With this oath?

Q. Yes.

A. I was familiar with that oath as early as 1934.

Q. In what way?

A. In that my father had taken out many patents in my presence. I worked very closely with him.

Q. And I assume——

A. I accompanied him when he visited his attorneys on several occasions.

Q. Now, I assume that as early as 1934, then, you were aware of the fact that it was necessary to make such an oath [143] in connection with a patent application?      A. Yes; I was.

Q. And, of course, you were aware of it on June 10th, 1948, were you not?      A. Yes; I was.

Q. Now, in that connection, when were you first aware of the fact that Mr. Welch had delivered a quantity of dipsticks to Pan American and that Pan American had put those dipsticks into use?

A. On August 12, 1948.

Q. And there is no doubt about that, is there?

A. No doubt whatsoever.

Q. It was August 12th, 1948?

(Testimony of Eugene L. Grindle.)

A. Absolutely.

Q. Now, with those statements in the background, how do you explain the fact that you did not assert your patent rights, if any, within the one-year period that was called for in the patent statute by that oath?

A. It is my understanding that there is no compulsion on the part of an inventor to file an application on an invention.

Q. No compulsion? A. No compulsion.

Q. Is it your understanding that you, as an inventor, can sit by more than the one year when you, personally, know that the device has been in public use and still make an application? [144]

A. Not in its original form, but perhaps in an improved form.

Q. But not in the original form?

A. Not in the original form.

Q. There is no doubt in your mind about that, is there? A. No; there is not.

Q. Now, the truth of the matter is you never did file an application? A. That is correct.

Q. On what you believed to be your invention on a dipstick? A. That is correct.

Q. Why didn't you file an application?

A. I have, Mr. Naylor, probably designed ten thousand items in my life on which I have not filed for a patent and which I felt were invention.

Q. And for various reasons?

A. And for various reasons.

Q. What was the reason for not filing an ap-

(Testimony of Eugene L. Grindle.)

plication on the dipstick which you believed to be your invention?

A. Well, there is no doubt in my mind at all as to what it was in this case; it was from my financial position. I did not have money to file for a patent on anything at that time. [145]

Q. And for that reason you did not file?

A. That was undoubtedly the main reason.

Q. Did the idea of filing an application on the dipstick cross your mind at any time in the one year in which you knew that public use was running against any claim that you might have?

A. The idea of filing patent applications goes through my mind frequently; I wouldn't say daily, but perhaps many times in a year's period, because my mind is—well, I am in the process of inventing many things.

Q. I take it from the statements that you have made that you have filed very few applications; is that correct?

A. Yes, I have. I have to—I don't think that anyone just files applications on every idea that comes to their mind.

Q. But in your case it is a very small percentage of the ideas that come to your mind; is that correct?

A. In my case, it is.

Q. Now, was there any other reason for not filing an application for letters patent on what you believed to be your invention in a dipstick?

A. Any other reason?

Q. Yes; other than financial.

(Testimony of Eugene L. Grindle.)

A. No; the only other procedure for me would have been that if I had intended to file a patent, I would have requested permission from my [146] company.

Q. Is that the usual procedure?

A. Pan American, you mean?

Q. Yes.           A. Yes.

Q. You would have requested and would have received in writing a waiver in your favor to permit you to file such an application, would you not?

A. I would have requested permission, and they would have considered first whether they were interested in patenting it, and, if not, I would have been given a release on the idea.

Q. And, as I understand it, you made no such request of Pan American in this particular instance?           A. That is correct.

Q. At any time within the one year on which you knew that the public use statute was running; is that correct?           A. That is correct.

Q. And at no time after the running of that one-year statutory period did you make such a request of Pan American? Is that correct?

A. I made no request from Pan American until such time as this litigation started, and then I asked them for a release.

Q. That was not a request for release to you to file an application, was it?

A. No; that was a request relinquishing any rights that Pan American might have. [147]



(Testimony of Eugene L. Grindle.)

Q. And that is the release that you mentioned yesterday?           A. Yes.

Q. Now, I would like to ask you, Mr. Grindle, just what was your attitude toward any invention rights that you may have thought you had in the dipstick as of June 10th, 1948?

A. There was no question whatever of the attitude in my mind regarding a dipstick; that was, it was solely my invention, my design from its inception. The basic idea of a calibrated scale enclosed in plastic with a liquid column to be supported by a finger placed over the top of the tube and read the fuel level by the level in this tube, and to seal the ends to protect this calibrated scale in this stick—that this conception was mine, unquestionably. The detailed design of the stick in question in this suit was my design, and I was furnished nothing but the plastic extrusion. That is all that I asked to be furnished, and the detailed design of that stick was entirely my own.

Q. And yet you abandoned all idea of ever asserting that right, didn't you?

A. I didn't think any right was in question at any time.

Q. Now, did you assert this right in any way prior to the first letter that you called your lawyers to write to Mr. Welch?

A. Mr. Naylor, myself and practically every engineer that I know has invented many things, designed many things which [148] has been his basic conception. They don't run out and file a patent ap-

(Testimony of Eugene L. Grindle.)

plication on every little thought that runs through their mind. And many of those items they, themselves, have put into production and sold, facing the fact that even though it is their design, they may sell it in competition with somebody else because they have not exerted their rights to possible patent.

Q. Now, did you assert to anyone the claim that you have just repeated here; that there was no question but what the invention was yours?

A. Oh, I have asserted that numerous times. There was an engineering group at Pan American consisting of some 30 to 40 engineers, every one of which was familiar with the fact that I had invented or designed this dipstick and it is quite clear in all their minds to this day that it was my design.

Q. When was this assertion made?

A. From the day that I started working on the dipstick project out there very early in the year of 1948 until we purchased them from Mr. Welch there was periodic discussions. They saw me working with dipsticks. It was quite familiar to everyone, in not only verbal assertions but in evidence in the engineering department that I had designed—was designing this dipstick.

Q. You mentioned specifically the assertion of it to a group of engineers. When was that assertion made? [149]

A. I made no mention of a specific assertion. I said that it had been asserted on numerous occasions both verbally and in evidence.

(Testimony of Eugene L. Grindle.)

Q. Now, as early as June 10th, 1948, you were aware, were you not, that Mr. Welch was the only manufacturer of the dipstick that has been indicated here in several forms; is that not correct?

A. It was my opinion that he was the only manufacturer; I don't have any indication otherwise.

Q. It was your belief? A. Yes.

Q. That he was the only manufacturer. Now, from inception of Mr. Welch's delivery of dipsticks to Pan American, you have been aware, have you not, that his name has been on the paper portion of the chart—calibration chart section of the dipsticks with the designation that he was the manufacturer?

A. Yes; I was.

Q. And how early were you aware of that fact?

A. Oh, perhaps prior to Mr. Welch delivering the dipsticks he in some conversation some time or other said he was going to stamp, "Manufactured by C. Martin Welch & Company." I have never disputed the fact that Mr. Welch manufactured them; he just manufactured them to our design.

Q. And he manufactured them to the specifications of other airlines, too, did he not? [150]

A. Well, I have no knowledge of that, Mr. Naylor. All I have knowledge of directly is that he manufactured to the Pan American specifications, and I am sure that they were not manufactured for any other airlines for some time after Pan American's first orders.

Q. Yes. But you did become aware of the fact, did you not, that after the initial order and delivery

(Testimony of Eugene L. Grindle.)

to Pan American, that Mr. Welch was manufacturing for other airlines?

A. Mr. Welch on several occasions made long distance calls to me from Dayton, Ohio, and from New York, too, that I can recall, where he requested technical information from me regarding the dipstick and I assumed that he was in the process of selling to other people and that he may have been successful.

Q. Now, didn't you have more direct knowledge of it than that?

A. More direct than that?

Q. Yes. A. I can't say that I did; no.

Q. Were you never in his home?

A. Yes; I was in his home.

Q. Were you ever in his workshop?

A. Yes; I was in his workshop.

Q. And isn't it a fact that the dipsticks for other airlines were being assembled in his workshop—— [151]

A. Not to my knowledge.

Q. ——and that you saw them there?

A. Not to my knowledge.

Q. Not to your knowledge?

A. No, sir. I have a very good recollection of the date I was last in Mr. Welch's home.

Q. But it does boil down to this: That you were aware of the fact that Mr. Welch was manufacturing and selling the dipsticks to other airlines?

A. I think that I can say definitely that I was aware that Mr. Welch was selling dipsticks to the

(Testimony of Eugene L. Grindle.)

Air Force. I don't believe I ever saw any of them, but Mr. Welch showed me a purchase order for—a request for quotation or something from the Air Force. I can remember that the amount was in the neighborhood of \$10,000 for the order.

Q. Now, you were satisfied, were you not, to see Mr. Welch put his name on the stick as the manufacturer?

A. I had no objection. He was the manufacturer.

Q. And you never raised any objection to him putting his name on the sticks as manufacturer?

A. Mr. Welch was the manufacturer. I would have no ground for objection and I had no thought of objecting to it.

Q. And you did not object, did you?

A. I did not object.

Q. Now, I would like to ask you a few questions about your [152] friendship with Mr. Welch. Over what period of time did that extend?

A. It extended from the time that Mr. Welch and I first met on the occasion of my calling him and he came to my office.

Q. That was approximately when?

A. That was in May of 1948, and our friendship ceased in February of 1951.

Q. February of 1951? A. That is correct.

Q. And by ceasing, are we to understand that you did not see him socially after that time?

A. That is correct.



(Testimony of Eugene L. Grindle.)

Q. Now, I gather that you had made one or more visits to Mr. Welch's home?

A. Yes; I believe I mentioned to you once before that I have made six to eight visits to Mr. Welch's house.

Q. Six to eight visits?

A. In that neighborhood.

Q. And his home is in Millbrae, is it not?

A. His home is in Millbrae.

Q. It is back toward the Skyline section of Millbrae, is it not?

A. Yes; I still know where it is.

Q. And did you observe on the occasion of any of those visits that Mr. Welch had a workshop in his home? [153]

A. Yes; I did.

Q. And it is a fact, is it not, that the workshop was a sort of a jerry-built thing on the occasion of your first visit?

A. On the occasion of my first visit to Mr. Welch's home he did not have a workshop; he had a basement. There weren't any tools or anything in it.

Q. When did you first observe that he had installed a workshop?

A. First observed that he installed a workshop?

Q. Yes.

A. You mean actual construction of a shop or something?

Q. Yes. A. I have never observed that.

Q. You have never seen a workshop in his residence?



(Testimony of Eugene L. Grindle.)

A. I have seen the racks where he put plastic and some things where he—a chair that he had in there, and on the occasions of some of the visits when he was making our dipsticks that he sat in the chair when he plugged the ends of these dipsticks. As far as any tooling or equipment, I have never seen it in Mr. Welch's shop.

Q. I didn't say anything about equipment, Mr. Grindle.

A. Well, what is a workshop, Mr. Naylor, unless it has some equipment in it?

Q. Well, I assume from what you say that at the place where Mr. Welch was he was doing work, was he not? [154]

A. Yes; he was.

Q. And how many times did you observe him doing work in that particular portion of the premises?

A. I never actually observed Mr. Welch doing any work. He took me down to the basement on only one occasion on which he actually took a dipstick and showed me how he was doing it. It was not the purpose of observing him in work. And on one other occasion when I was in his basement, he took me down there and he had two school boys assembling the dipsticks for him.

Q. And did you observe the high school boys working on the dipsticks?

A. From a distance, I did.

Q. On the occasion of any of these visits did you pick up dipsticks or parts of dipsticks in the workshop or the work area of Mr. Welch's home?

(Testimony of Eugene L. Grindle.)

A. I undoubtedly did pick up parts of dipsticks and possibly a completed dipstick.

Q. And I assume some conversation ensued between Mr. Welch and you?

A. I had considerable conversation with Mr. Welch. I am sure he would recall that I expressed dissatisfaction with the way he was feeling the ends, not being in accordance with the drawing, and so forth, and that I would like to see him do that. And he explained the difficulty of making [155] such plugs and so forth, the tolerances on the extrusion were such that he couldn't make standard plugs and things like that. And I had conversations with him about that aspect.

Q. You were aware, then, I take it, that there was a problem in getting an effective seal for the ends of the dipsticks, were you not?

A. I was not aware that there was a problem; I was aware that Mr. Welch was having a problem.

Q. Well, I'll take that. You were aware that Mr. Welch was having a problem?

A. And I was aware also of the fact that it was because of Mr. Welch's mechanical aptitude.

Q. I see. Now, part of the time of this period of friendship, were you unmarried?

A. Yes; I was.

Q. And you had a lady friend, Miss Margaret Simpson, did you not?

A. That is correct.

Q. And did Miss Simpson accompany you on any occasion to the Welch home?

A. Yes; she did. I don't recall that I ever visited

(Testimony of Eugene L. Grindle.)

Mr. Welch's home alone; I might have, possibly, but usually Miss Simpson was with me.

Q. And did Miss Simpson and you ever accompany Mr. and Mrs. Welch on any trips? [156]

A. Yes; we did.

Q. How many trips? A. One.

Q. And where?

A. To the Sonoma Mission Inn. I would like to say that we had separate rooms.

Q. Now, some time in that period of friendship you were married, were you not?

A. In May of 1950 I moved from San Francisco to an apartment in Burlingame. During the week, the following Saturday, I broke off with Miss Simpson. From that time until Mr. Welch was invited to my wedding reception in December, I did not see Mr. Welch socially.

Q. Did you see him socially after you were married?

A. I saw Mr. Welch socially after May of 1950 for the first time in December when he was invited to my home to a wedding reception along with about 120 other guests.

Q. Now, after that reception?

A. After that reception, a week or two weeks after that reception, Mr. Welch called on us and presented us with an electric blanket, and at the same time invited my wife and myself to dinner at his home.

Q. And did you go to his home on that occasion?

A. Yes; I did.

(Testimony of Eugene L. Grindle.)

Q. And approximately when was that? [157]

A. That was some time in January of 1951. I then returned that invitation and had him to dinner in my home, and that was the occasion of our last social visit.

Q. Now, on the occasion of your last visit to Mr. Welch's home, did you have any conversation with him concerning dipsticks?

A. None whatsoever.

Q. None whatsoever? A. None.

Q. Did you go to his basement?

A. My wife has reminded me that I did not. It was the first time she had been in his home and she recalls Mr. Welch going down to his basement and bringing up his dog.

Q. Did you observe on the occasion of that visit any dipsticks? A. No; I did not.

Q. In Mr. Welch's home? A. I did not.

Q. Now, going back to the time when you admit seeing in Mr. Welch's home dipsticks in the process of assembly or the parts ready for assembly, did you observe the various parts of the dipsticks?

A. Yes; I did.

Q. And did you observe in particular the calibration charts, the paper portion of the [158] dipstick?

A. Yes. I have told you this before: That the only calibrations that I have ever observed in Mr. Welch's home were those that I had printed and given to him myself for our dipsticks, because my interest in dipsticks was from Pan American's

(Testimony of Eugene L. Grindle.)

standpoint. I don't recall ever seeing another calibration other than Pan American's.

Q. At any time? A. At any time.

Q. Other than the exhibits that had been introduced in this case?

A. Oh, yes; I have seen them since. I have noticed other operators to see that the patent number was on there since the time this litigation was started.

Q. Yes. But, as I understand it, you did not observe the sticks or the calibration chart portions of the sticks—— A. No; I did not.

Q. Except a chart that was intended for a Pan American order? A. That is correct.

Q. That is correct? A. That is correct.

Q. Now, is it your assertion that you never saw a stick made by Mr. Welch which bore the notation, "Patent Pending"? A. Never in my life.

Q. You never did? [159] A. Never did.

Q. And it is your assertion that the first time you ever saw a patent number on a stick manufactured by Mr. Welch was on the occasion of the Burfein test, is that correct?

A. That is correct.

Q. And that was when?

A. That was September 28, 1953.

Q. Now, after this incident during the test by Mr. Burfein, we understand from your testimony yesterday that some time later you mentioned the matter of the dipstick casually while talking with

(Testimony of Eugene L. Grindle.)

your patent counsel on other matters; is that the substance of your testimony?

A. I don't say casually. I believe that I mentioned the dipstick situation to my patent counsel at the time that Pan American still had the entire situation under advisement. They had still not advised me that they were not going to take action against Mr. Welch.

Q. When was this?

A. It was many months after this thing had come up on September 28th, '53, before Pan American had advised me that they were not going to take any action against Mr. Welch and that I could pursue the patent situation myself.

Q. Well, I would like to clarify that, if I may. When was this conversation with patent counsel?

A. It would be hard to say; I would say that it was in the [160] very early part of 1954.

Q. Early part of 1954. And where was this?

A. In the offices of Flehr & Swain, my attorneys.

Q. And with whom in that firm were you talking?

A. Mr. Hohbach.

Q. And what were the other matters that were being discussed at that time?

A. Well, I was in the office at the time for the purpose of going over some action on a patent that I had in process. It was a Patent Office action.

Q. Some other device than the devices involved here?

A. That is correct.



(Testimony of Eugene L. Grindle.)

Q. Now, was it this conversation that led to the letter that was written to Mr. Hohbach?

A. Not that particular conversation, because I did not have the file with me at that time; but they said they would like to see the file and see what action would be called for. I brought that file in at some later day and then the letter to Mr. Welch was written.

Q. How much later, Mr. Grindle?

A. I don't recall. I believe that we could probably pin that down pretty closely by the date of the letter written to Mr. Welch, I imagine.

Q. That was October 15, 1954, wasn't it?

A. Was it? I don't recall the date of that [161] letter.

Q. Would you like to verify it? I have the letter here.

A. It would be a good idea.

Q. Just for the purpose of fixing the date, I will show you what we understand to have been the original letter from Mr. Hohbach to Mr. Welch.

A. Is this the original letter, Mr. Hohbach? I can't say that that is the original letter.

Q. Well, you don't deny that letter was written on October 15th?

A. No; there were several letters written.

Mr. Hohbach: Your Honor, I will stipulate that that is the first letter that was written by us to Mr. Welch.

The Court: Very well.

Q. (By Mr. Naylor): Now, if the conversation with Mr. Hohbach was in the early part of 1954,

(Testimony of Eugene L. Grindle.)

what was done on this matter between early 1954 and the letter date of October 15, 1954?

A. Well, first of all, during this time Pan American was making their investigation into the possible overcharges and determining whether or not they had any recourse or were going to take any action against Mr. Welch, and at such time as they advised me that they weren't and that the patent recourse would be up to me, I then at some time after that took the file to my attorneys and they started their action. I believe one of the first things they did was to write to [162] get a copy of the patent, studied the patent; I studied the patent and we had a few discussions about it. One of the main reasons for delay was the fact that I realized any litigation in this thing was going to cost me money. I did not have much money. I work for a small salary and until such time as I felt I was able to handle the expense of a lawsuit, I was a little reluctant to go ahead, but finally I asked them to do that.

Q. You finally authorized Mr. Hohbach to proceed?

A. That is correct.

Q. You mentioned a moment ago that during part of that time, from the early part of 1954 to the October 15, 1954, letter, that Pan Am was making its inquiry as to whether or not it had any grouse or complaint to Mr. Welch; is that correct?

A. The way you phrase it is not correct.

Q. Well, set me right. I don't want to mislead you.

(Testimony of Eugene L. Grindle.)

A. Pan American's sole interest in the matter was related to the agreement that I had negotiated with Mr. Welch for Pan American in which Mr. Welch stipulated he would sell Pan American dipsticks in the future for \$5.00 each. Their only interest in the matter was the amount that Mr. Welch had charged over that \$5.00 and the manner in which he had done it, to see if Pan American had any recourse to recover the overcharges. [163]

Q. That is your version of their inquiry?

A. That is my version, which has been affirmed by the Pan American officials involved.

Q. All right. Now, accepting your version of it, when did that inquiry begin and when did it end?

A. That inquiry began in late 1953 and it ended several months later. Pan American officials are busy people; they don't stop everything they are doing to act on something as minor as this.

Q. Isn't it a fact, Mr. Grindle, that Pan American declared itself on that in the manner in which you stated yesterday within just a matter of days after the first question was raised?

A. Absolutely not.

Q. Aren't you aware of the fact that Mr. Fox told Mr. Welch that Pan American had no complaint about what was going on?

A. I am aware of exactly what Mr. Fox has said. I have discussed this with Mr. Fox recently; I know what Mr. Fox said.

Q. Now, let's fix the time on it, because the time is important. When did Pan American first make

(Testimony of Eugene L. Grindle.)

an inquiry about this and when did it declare to Mr. Welch that Pan American had no complaint to make to him?

A. I mentioned in my testimony yesterday that at some time [164] during Pan American's investigations, some time after I had initiated their investigation in October, 1953—it could have been anywhere from one to two to three months after that—Mr. Fox called Mr. Welch into the office and discussed it with him, and Mr. Welch said that he would go to Los Angeles and get what he considered the original drawing of this dipstick, which he returned with a week or so earlier, and gave three copies of that to Pan American, in the company of Mr. Fox, Mr. Kiester and I believe Mr. Boyle. And he said, "Now, this is the original drawing." That was the drawing made by me. I would like to say that that was Plaintiff's Exhibit 4, I believe—and that the drawing, Plaintiff's Exhibit 8 was not the original drawing. Now, Mr. Fox—

Mr. Hohbach: Your Honor, may we correct that so we will know what the witness is testifying about? Actually, the first drawing made by Mr. Grindle is Plaintiff's Exhibit 6.

The Witness: Excuse me.

Mr. Naylor: Thank you.

The Witness: Mr. Fox said that on his last visit with Mr. Welch he made a statement that if the facts were as Mr. Welch presented them, it might throw a different light on the story. That was the way he phrased his parting words with Mr. Welch, but that by no means ended Pan American's in-

(Testimony of Eugene L. Grindle.)

vestigation. That was more the beginning of Pan American's [165] investigation.

Q. (By Mr. Naylor): All right. When did it end, according to your understanding?

A. Pan American's investigation ended, the shops had made their cost studies and determined—turned that over to Mr. Boyle to determine whether or not Pan American would be—would want to make these dipsticks themselves. They decided they did not and at that time said that I should go ahead with any patent interests that I might have. Now, I can't say exactly what date that was, Mr. Naylor.

Q. But Mr. Welch had no part in this cost survey that was conducted, did he?

A. Mr. Welch?

Q. Yes.

A. He possibly did. They might have asked him for materials or something like that.

Q. That was an internal survey, was it not?

A. The internal survey as far as labor was concerned, was internal, yes. Undoubtedly Pan American would have to purchase materials from Mr. Welch's company; the Plastic Process Company was the only company in the West that makes that square extrusion.

Q. Isn't it a fact, Mr. Grindle, that Mr. Fox communicated his sentiments and his decision to Mr. Welch as early as 1953? [166]

A. Not to my knowledge. I can't recall exact dates, but what you are talking about, "his sentiments"—Mr. Fox believes he has been misquoted



(Testimony of Eugene L. Grindle.)

and is willing to come in here and refute these statements attributed to him.

Q. Well, isn't it a fact—whether I used the term “sentiment” in correct connotation or not is of no moment, but isn't it a fact that Mr. Fox—that Mr. Fox's inquiry as a result of your initiating it concerning this matter of price was a very short lived thing and it required but two visits by Mr. Welch to bring it to an end as far as Mr. Welch was concerned? [167]

A. Mr. Naylor, Mr. Fox's investigation into this matter, as far as Mr. Welch was concerned, was purely to look at the legal aspects as to whether or not Pan American had recourse to recover overcharges, and because Mr. Welch notified Pan American each time that he increased the price and our purchasing department issued a purchase order based on the price quoted with the increase, Mr. Fox considered that tacit approval of Pan American Airways for the increase and that we had no recourse to recovery overcharges. That was the end of Mr. Fox's interest as far as Mr. Welch was concerned, but that did not end Pan American's investigation as to whether they might be interested in manufacturing the sticks for their own use.

Q. All right. I will come back to my question now: That the inquiry by Mr. Fox was a very short affair and began after you had initiated with Mr. Fox, with the request by Mr. Fox that Mr. Welch come down there, which he did, and then he made a trip to Los Angeles and came back and brought



(Testimony of Eugene L. Grindle.)

you believed to be a complaint that Pan American might have and the question of your own personal patent interests; is that true? [170]

A. That is correct.

Q. In that initial conversation did you discuss with Mr. Fox the June 10th, 1948, letter that you authored?

A. That letter was given to Mr. Fox, it was part of the file, and it was discussed.

Q. It was. Did you tell Mr. Fox at that time anything about the development work that Mr. Welch had been doing on this stick?

A. To my knowledge, Mr. Welch never had done any development work. I would not discuss that with anyone. He didn't do any development work as far as I was concerned. To this day he hasn't done any development work on the dipstick, except if you call the color code that he has put on the stick a development. That is a common practice, has been in aircraft for years and years to put on a color code to distinguish materials.

Q. Is it your statement that Mr. Welch did nothing to make a better stick?

A. Mr. Welch over a year or so's period, finally was able to manufacture a dipstick that was in accordance with my original drawing. He was finally successful in being able to build a stick to that drawing. My production people, when I started building dipsticks, turned out a dipstick in a matter of an hour after I asked them to put one together, making the end plugs, and putting them in

(Testimony of Eugene L. Grindle.)

and sealing them [171] and having it ready for test in one hour.

Q. It was that simple, was it?

A. It has always been that simple. I will say that it takes a few tools and a little mechanical aptitude.

Q. That prompts me to ask, what experience have you actually had in plastics and plastic compositions?

A. Me?

Q. Yes.

A. I have done considerable plastic work primarily in my assignments with the Air Forces around the world where we have had to make jerry rigs of plastic parts, primarily windows and windshield structures, where you don't have a spare window available we take the old one out, make a simple mold for it or a simple jig and laminate the window out of whatever plastic materials are available to build in a hand-made manner the structure that we are trying to replace.

I have also made my own—all of my own plastic drafting instruments of various shapes and sizes that are not available on the market. I have manufactured and been selling these plastic covers for the vibrometer for several years.

Q. Did you ever take any courses in plastics?

A. I have never actually taken any formal courses in plastics, but we have a very substantial plastic technical library at Pan American, where Pan American is—the [172] library, engineering library is kept in very up-to-date fashion. We have

(Testimony of Eugene L. Grindle.)

—we are on the mailing list for Modern Plastics distribution. We have a man in our engineering department who is an extremely well qualified chemist and very familiar with plastics, solvents and chemical compositions for personal advice if we need it.

Q. If you need it? A. If we need it.

Q. Now, do you profess to be skilled or learned in the chemistry of plastics?

A. You mean as far as the plastic profession is concerned?

Q. Yes.

A. Oh, no; I consider myself a layman in the field.

Q. Now, I take it that you were in court yesterday when Mr. Hohbach made his opening statement in your behalf? A. Yes; I was.

Q. And do you recall him saying in effect that, "Mr. Grindle takes the position that the release is no longer in effect due to the breach of the price agreement"?

A. I believe I can recall saying something like that.

Q. Now, is that your position before this Court?

A. That the agreement that Pan American negotiated with Mr. Welch is no longer in effect?

Q. Yes.

A. From a moral standpoint, it is not. [173]

Q. Now, you take this position despite the fact that Mr. Fox closed the door on it; is that true?

A. Mr. Fox has not closed the door on it by any means. Mr. Fox has given me a release of the dip-

(Testimony of Eugene L. Grindle.)

stick so that I can pursue it any way that I choose.

Q. Well, that relates to your asserted invention, does it not, Mr. Grindle; that has nothing to do with price?

A. As far as price is concerned, Pan American has decided that they could not—well, actually, I know what they said they could produce dipsticks for themselves. They didn't think it was enough lower than Mr. Welch to bother to do it. They have retained shop rights if I should license or manufacture these dipsticks myself—not if I manufacture them, but if I should license someone else to manufacture them and I should receive a royalty, they would get them royalty free from me.

I don't exactly get your question, what you want me to answer.

Q. Well, I say it is your position before this court—your personal position before this Court—that the release of June 10th, 1948, is no longer in effect because of an asserted breach of some price stipulation?

A. That is my personal opinion.

Q. And it is your personal position along that line despite the fact that Mr. Fox has washed his hands of the price [174] factor and consideration, is it?

A. Let me make clear once again, Mr. Naylor, that Mr. Fox's position is that Pan American, because of their tacit approval of the increase, can no longer legally or would they be willing to spend the necessary legal time, to try to make Mr. Welch hold to that original agreement.

(Testimony of Eugene L. Grindle.)

Q. In other words, Mr. Fox has shut the door on the price inquiry? A. Yes.

Q. And notwithstanding that, it is your position——

A. Mr. Fox, you understand, is acting purely in the legal aspects for Pan American. There are other management officials out there that I wouldn't say have necessarily washed their hands of the price picture.

Q. But notwithstanding Mr. Fox's position, it is your assertion before this Court that the June 10th release to Mr. Welch is no longer in effect; is that right? A. That is correct.

Q. Now, was the——

A. It undoubtedly is correct, because our knowledge and our advice to other divisions was that Mr. Welch would sell to Pan American for \$5. Obviously, that isn't in effect any more; he has been charging twelve fifty.

Q. Now, let me ask you, was that agreement with you?

A. That agreement was negotiated personally with Mr. Welch and myself, but I had no authority in my position [175] to make that agreement. I authored the agreement and had it executed by my superiors.

Q. But you had no personal part in any such agreement, did you? A. Mr. Naylor——

Q. Were you a party to that agreement?

A. Was I a party to it?

Q. Yes. A. Officially?



(Testimony of Eugene L. Grindle.)

Q. In any way. Were you, personally, a party to that agreement?

A. Naturally I was personally a party to it. I authored it, and I explained to my superiors the purpose of it, and I recommended that it be done so that Pan American could get the advantage of price consideration.

Q. Well, if you were a party to it then, the release was from you, personally, as well, wasn't it?

A. I do not have the authority to release the thing for Pan American. The purpose of the agreement, or of the release, as you call it, was to permit Mr. Welch to sell the dipsticks to other operators, in return for which Pan American would get a price consideration. As far as price consideration was concerned, I was acting purely in the interests of Pan American Airways; I wasn't getting anything from it personally.

Q. And yet you say you were a party to the so-called [176] price agreement?

A. Mr. Naylor, I had to be. I was the only one at Pan American Airways that Mr. Welch dealt with. He asked me for it and I took the necessary steps to give it to him. To that extent, I was a party to it.

Q. Don't you mean by that, though, Mr. Grindle, that you personally negotiated it on behalf of Pan American if there was such an agreement?

A. Yes.

Q. That's what you are saying?

A. Yes; I negotiated it.



(Testimony of Eugene L. Grindle.)

Q. So that your position before the Court is inconsistent with the position of your employer with respect to the June 10th, 1948, agreement?

A. In what respect?

Q. Your employer has washed his hands of the matter and you still pursue it?

A. My employer—I would like to change the words “washed their hands of it”; they said that because of the fact that another department, our purchasing department, authorized, without sanction or without knowledge of this agreement—and that, unfortunately, was my mistake, but our purchasing department authorized the increase; therefore, we had approved the increase.

Q. And that’s where the matter rests? [177]

A. That’s where the matter rests as far as legal recourse in holding Mr. Welch to that original agreement.

Q. You are not in this action then complaining about that which your employer has no complaint, are you?

A. Mr. Naylor, I am in this action because Mr. Welch is charging so much for the dipsticks that—and preventing other people from manufacturing and selling this item by having a patent on it, and I am interested in going the manufacturing of these dipsticks myself and selling them. That’s why I’m here.

Q. So then we have three reasons why you are here: One, he is charging a high price for his sticks; number two, you say the patent has prevented other

(Testimony of Eugene L. Grindle.)

people from going into the manufacture; is that right?

A. Number one, I am here not because Mr. Welch is charging a high price for the dipsticks; I am here because he is charging a price much higher, more than twice the amount, that I negotiated with him, and he has deviated and completely abandoned an agreement that I negotiated with him. And I consider that it was more or less of a personal thing between us at the time because I was doing everything I could at that time to help Mr. Welch get started. He had made many complaints about not being able to feed his family properly, his car wouldn't operate, it used to break down; he has had to borrow other people's automobiles just [178] to come out to Pan American. I, to some extent, felt sorry for him.

He was very humble in his negotiations with me, and I tried very hard to help him get started, and I felt that we had more or less of a personal agreement, that for all this help in giving him the design that he was going to give Pan American this price consideration.

Q. Now, it is a fact, is it not, as you testified yesterday, that the dipsticks produced by Mr. Welch are very efficient?

A. Efficient?

Q. Yes.

A. Well, without taking too many bouquets, I would say they are. It is my design, and it works very well.

(Testimony of Eugene L. Grindle.)

Q. And it is a fact, is it not——

A. It also has deficiencies.

Q. Well, let's talk about its efficiencies for a moment.

A. Fine.

Q. I will accept your testimony of yesterday that the device is highly efficacious for its purpose. Is that correct?

A. If the user is properly indoctrinated in its use.

Q. All right. We will assume that he is.

A. All right.

Q. It is also a fact, is it not, that the price charged by Mr. Welch is considerably less than the so-called [179] competitive dipsticks of Boeing and the other concerns?

A. No, some competitive dipsticks. There are dipsticks on the market cheaper than Mr. Welch's.

Q. Could you name one, for example?

A. Yes; Roylin makes one for \$5.

Q. What is it?

A. It is just an aluminum tube with calibrations on it painted black.

Q. And that is a surface reading stick, is it not? In other words, you read where the fluid was?

A. That is correct.

Q. At the greatest point of immersion?

A. Correct.

Q. Right? A. Correct.

Q. In other words——

A. Similiar to the old wooden type that we discussed yesterday.

(Testimony of Eugene L. Grindle.)

Q. All right. Now that one sells for \$5. What about the Boeing stick that you spoke about yesterday at \$15.50?

A. Actually, I can't recall the actual design of that stick, but either that one or the one that Roylin had designed for the Boeing is an integral part of the fuel tank cap, and because you had to have a separate dipstick for each tank, with four dipsticks the separate parts would cost \$15.50, and it would have been additional weight, which is also a [180] factor that would involve revenue to Pan American.

Q. And the price of that was \$15.50?

A. At the time. That, you understand, was back in 1948.

Q. Do you regard the Boeing stick at \$15.50, or whatever its current price is, as comparable in efficiency to the dipsticks in this action before the Court?

A. Comparable in efficiency?

Q. Yes. A. I would say yes.

Q. Are they not——

A. As a matter of fact, Mr. Naylor, Mr. Welch has to this day never produced a dipstick within the tolerances specified on our drawings.

Q. Well, you misunderstood me. I was talking about the dipsticks here before the Court as exemplified by all of the exhibits here; not just Mr. Welch's stick, your prototypes, too.

A. All right.

Q. Now what would you say?

(Testimony of Eugene L. Grindle.)

A. I would say that they are all about the same efficiency.

Q. No advantages?

A. The advantages of the liquid—there are advantages to the liquid column dipstick, but it is perhaps equally offset by its disadvantages; so all in all they are all on about the same level. [181]

Q. I understood you to say yesterday that in drafting the release letter of June 10th, 1948—that is Plaintiff's Exhibit 10—you intended merely to give Pan American's permission and did not intend to deal with your personal rights as to the dipstick; is that correct?

A. That is correct. There was no mention whatsoever of any patent rights in that letter.

Q. And conversely, there was no reservation in that communication of any asserted patent rights, were there?

A. No, there was not. I could never have possibly conceived, Mr. Naylor, that any vendor would be so brazen as to claim invention of an item that he was manufacturing to someone else's drawing.

Q. We will come to that in due course; but as of June 10th, 1948, did you believe that you had any personal rights in the dipstick of your asserted design?

A. I always did, and I have never believed otherwise.

Q. Well, if that is true, why did you consider it necessary to later seek a release from Pan American?

(Testimony of Eugene L. Grindle.)

A. Because by this time Mr. Welch had a patent number on the dipstick and if I were going to produce dipsticks, it would be a difficult thing for me to sell in competition with one that Mr. Welch had with a patent number on it.

So as a legal expedient, I obtained a release from Pan American primarily for the purpose of this legal action. [182]

Mr. Naylor: Do you have the original of this?

Mr. Hohbach: Your Honor, we have the original.

Mr. Naylor: Thank you.

Q. I will show you a document which Mr. Hohbach has handed me which purports to be dated October 6, 1954, and I will ask if that is the release of which you spoke? A. Yes; it is.

Mr. Naylor: I have an extra copy, Your Honor, if you wish to follow it.

Q. I would like to ask a few questions concerning this release.

I note it is directed "To Whom It May Concern" rather than to you personally.

A. That is correct.

Q. Why was that?

A. The point that we knew would be in question here was whether I as an employee would have rights to any invention of mine, or whether my employer would have those rights; and to establish that point I considered that it would be advisable to have a statement of Pan American's policy regarding inventions to show that they waived their rights in this thing to the possible inventor.



(Testimony of Eugene L. Grindle.)

Q. And that is the reason for the choice of "To Whom It May Concern"?

A. Well, I would consider that it was. I asked for [183] primarily a release of this dipstick and a statement of their policy. You belabored the question of Pan American's policy to some extent, Mr. Naylor, and we had foreseen such an event.

Q. Now, directing your attention to the first paragraph of this document—which, incidentally, may we have marked as Defendant's Exhibit first in order for identification, if Your Honor please?

The Court: So ordered.

The Clerk: Defendant's Exhibit A for identification.

(Release marked Defendant's Exhibit A for identification.)

Q. (By Mr. Naylor): Directing your attention, Mr. Grindle, to the first paragraph of Defendant's Exhibit A for identification, I notice that Pan American speaks of its shop rights, if any.

A. Uh-huh (affirmative).

Q. Do you know the reason for that choice of language?

A. Yes; Pan American on all releases of inventions to their employees retains shop rights; they are entitled to shop rights to make it in their own shop, or to purchase it royalty free if their employee is collecting royalties on an invention.

You understand that an employer would only have shop rights to an item that was invented by one of their employees. [184]

(Testimony of Eugene L. Grindle.)

Q. In that same paragraph I note that there is no specific identification of any particular dipstick. Can you explain the reason for that?

A. Well, Mr. Naylor, I didn't dictate this at all; it was written by our legal counsel.

Q. Mr. Fox?

A. It was actually written by his assistant legal officer Mr. Loche.

Q. Mr. Loche?

A. Mr. Bill Loche—William Loche, L-o-c-h-e. I told him, or asked him for a release. This is what he gave me. If you would like this to be reworded specifically, I don't think we would have much trouble getting it.

Q. I am not concerned; I am merely concerned with what the words mean. Did you supply Mr. Loche with the identification that he employs in the general words: "A hollow calibrated stick commonly called a dipstick"?

A. Mr. Loche in a very—without taking too much time, reviewed this file. He saw the dipstick that was involved, and the choice of words here describing it were his.

Q. They are his words. All right; coming to the second paragraph. You are not specifically mentioned in that paragraph in any way, are you?

A. No; not personally.

Q. You are not identified in that particular paragraph either [185] as the beneficiary of this so-

(Testimony of Eugene L. Grindle.)

called release or as an inventor or otherwise; isn't that true?

A. That is correct, Mr. Naylor. It was not to the interests of Pan American to make a long legal investigation into this matter and put in writing that I was the inventor.

That would take some investigation, and that is why we are in this court.

Q. Will you say that again? I didn't quite understand you or follow you.

A. I am saying that Pan American did not go to the legal expense or take the time of their legal officers to investigate this program to assure that I was the inventor. I'm saying that that is why we are in court here, to try to prove that I am the inventor.

Q. Well, are you prosecuting this action on behalf of Pan American Airways?

A. I am prosecuting this action on behalf of myself and I have this to show that I—that Pan American has no part in the patent action; they have released their rights in any patent to the dipstick.

Q. Now you call this a release. It is actually a renunciation of any rights that Pan Am has to whom it may concern, or to the world, isn't it?

A. It is specifically a release. It uses the words "hereby releases." [186]

Q. To whom?

A. To whom it may concern.

Q. And that is Mr. Welch?

(Testimony of Eugene L. Grindle.)

A. Mr. Fox is not a federal judge sitting in judgment as to who invented the dipstick, and he knew that there was going to be litigation as to who was. I said I was. Mr. Welch came in and said that he was.

Mr. Fox is not going to take Pan American's valuable time to determine a minor item like this.

The Court: If I may make an observation, Mr. Naylor: I think we are getting a little bit far afield in the interpretation of this instrument, a copy of which I have in my hand and which has been introduced as your exhibit for identification.

The interpretation of that instrument is primarily the responsibility of this Court and I don't think should be the subject of any difference of opinion between you and the witness.

Mr. Naylor: I was pursuing it—I think I should state, your Honor, I am through with that particular aspect of this matter; but it has been difficult for us to discern the line of demarcation between the rights of Pan Am, if any, and the plaintiff in this action, and it was through this estimate——

The Court: I have allowed you to pursue this line of [187] examination, but I think now you have just about exhausted it.

We will take morning recess.

(Recess.)

Q. (By Mr. Naylor): Just one final question concerning Defendant's Exhibit A. Mr. Grindle, I assume you have read the declaration of policy that is contained in that document, have you not?

(Testimony of Eugene L. Grindle.)

A. Yes; I have.

Q. And is that your understanding of the company policy?      A. Yes; it is.

Q. And is that substantially the understanding you had as early as June 10th, 1948?

A. Oh, that is the understanding I had long before I came to Pan American Airways.

Q. I see.

A. Because I have known engineers of Pan American prior to my employment there that have invented things that are patented and they are collecting royalties on them personally. They invented them on Pan American's time, and at their direction.

Q. And despite that knowledge, you never filed an application on what you believed to be your invention in a dipstick?      A. That is correct.

Q. Now did you ever assert to Mr. Welch, by writing or in [188] conversation, prior to the 'phone call of which you spoke yesterday, which I think was in 1953, that you claimed personal inventor's rights in the dipstick?      A. Yes, I did.

Q. When?

A. Specifically in writing on June 10th, 1948, in which I transmitted with that letter three copies of our drawing showing me as the designer.

Q. I am glad you mentioned that. That is Plaintiff's Exhibit——      A. 8.

Q. 8. I assume you are referring to the box in the lower right-hand corner of that drawing.

A. The Pan American title block.

Q. I beg your pardon?

(Testimony of Eugene L. Grindle.)

A. The Pan American title block.

Q. Title block. And you have reference to the fact that after the word "designed" it states in printing "E. Grindle"; right?

A. That is correct.

Q. And immediately below that is "Drawn R. Chong, 6/4/48"; correct?

A. That is correct.

Q. And who printed in your name after the word "Designed"? A. Mr. Chong. [189]

Q. And at whose direction?

A. I doubt if it had to be specifically directed; Mr. Chong was quite aware that I had designed it, but I perhaps directed him to put it in there. I recognize it as his lettering.

Q. Yes. Now that, you say, was an assertion that you were the inventor of the structure illustrated in that drawing? A. That is correct.

Q. Now other than the furnishing of this drawing—that's a parts drawing; isn't that what it is known as?

A. That is a design drawing, Mr. Naylor.

Q. A design drawing?

A. That is correct.

Q. Now, other than this design drawing, Plaintiff's Exhibit 8, did you ever, in writing or in conversation, prior to your phone call in 1953, assert to Mr. Welch that you claimed to be the inventor of this subject matter?

A. Not after that letter, no. The question never entered my mind.



(Testimony of Eugene L. Grindle.)

Q. By "letter," you mean the June 10th, 1948, letter?      A. The June 10th letter.

Q. Now I would like to direct your attention to the letter of June 10th, 1948, which is Plaintiff's Exhibit 12. That of course does not contain any assertion by Pan American or by you that you were the inventor of the subject matter; is that [190] correct.

A. In essence I believe it does in that it talks about the release of a design, which was the purpose of giving this letter to Mr. Welch. Why would it be necessary to write such a thing if the question of Pan American design or Pan American employee design were not present?

Q. That is your present interpretation?

A. That has always been my interpretation, Mr. Naylor.

Q. Well, I ask you if there are any words in there—and if there are I would like you to point them out—which say——

A. I would like to again say in relation to this letter, that this was to be a sales leader for Mr. Welch to use this to interest other employers or other airline operators in purchasing these dipsticks from him and also showing them that he had permission from the designer to sell them.

Q. You say a "sales leader." Do you have any knowledge that it was ever so used?

A. I can't say that I have, but I do have definite knowledge that that is what he told me he wanted

(Testimony of Eugene L. Grindle.)

the letter for. It more or less gave me the letter, of how to form the letter for him.

Q. And it is your testimony that this letter was framed especially at Mr. Welch's request?

A. Absolutely.

Q. That's your testimony? [191]

A. Absolutely.

Q. Now I gather from what you have said, Mr. Grindle, that it did not concern you in the least that Mr. Welch was going ahead with the development of business in the dipsticks until the incident with Mr. F. Burfiend in October, 1953, when it was brought to your attention that there was a patent number on the article?

A. That's correct.

Q. Why did it not concern you prior to that time?

A. Because to that day I thought Mr. Welch was still selling dipsticks for \$5 each to Pan-American World Airways.

Q. Did it concern you whether or not he had built a business in manufacturing and selling dipsticks to the airline operators and others other than Pan-American?

A. Up to that time I was more or less happy to see that Mr. Welch had an income and a good income from this dipstick. I didn't resent that.

Q. You had no resentment?

A. My resentment was when I found that he had claimed invention to the thing and had foregone our agreement.

(Testimony of Eugene L. Grindle.)

Q. So that you were perfectly happy, were you not, and content from June 10th, 1948, until the discovery of the patent notice on the article to see Mr. Welch build a business in this particular article?

A. Why, I would say that I was. I know that at some time [192] prior to that, as early as some time in 1950, when I started developing things for manufacturing myself that I began to entertain ideas of manufacturing the dipstick along with these other things, but I didn't make any particular effort at the time because I thought Mr. Welch was still charging \$5, and I didn't go to the trouble of investigating then to see if he had raised the price, because I never suspected that he had.

Q. Suppose he had been charging \$5, would you have entered or embarked upon the business of manufacturing dipsticks? A. I might have.

Q. I don't quite follow you.

A. It is hard to say what I would have done had the situation been different.

Q. I don't quite follow you then on the significance of the price differential. Was that the sole consideration that motivated your entering or entertaining ideas——

A. I told you that there was a dual consideration. One was that he had claimed invention of an item that I had invented or designed, and two, that he had not lived up to his agreement that I negotiated with him for Pan-American. It appeared to me that he now felt that he had the thing ex-

(Testimony of Eugene L. Grindle.)

clusive and that he was going to tap the market for all he could get.

Q. That's your interpretation? [193]

A. That's my interpretation.

Q. Now I would like to touch on this matter of the company with which you were associated. What was the name of that again, Mr. Grindle?

A. The name of that is the Deterget Corporation.

Q. And is that a California corporation?

A. Yes, it is.

Q. And where does it have its principal place of business?

A. The principal offices are in my home.

Q. And your home is where, sir?

A. 1062 South Claremont Street, San Mateo.

Q. And has it always been located there?

A. No, it has not. I formed that corporation when I was in an apartment in Burlingame, California.

Q. And was your apartment its original place of business?      A. Yes, it was.

Q. And then it changed to the current address?

A. That is correct.

Q. Yesterday you spoke of facilities that it possessed.      A. That is correct.

Q. Where are those facilities located?

A. They are in the garage and home of an associate of mine, Mr. Savage, in Redwood City. He has very adequate shop facilities.

(Testimony of Eugene L. Grindle.)

Q. And I assume that in Mr. Savage's workshop he has [194] tools of his own; is that correct?

A. Very—quite a few tools, yes.

Q. Quite a few tools?

A. Yes; power tools, machine tools, many hand tools, and special tools of all kinds.

Q. Does Deterget have any of its facilities commingled with the tools of Mr. Savage?

A. Yes, it does.

Q. When did it establish the shop in conjunction with Mr. Savage's garage?

A. Well, the first products that we manufactured and sold were made in those facilities, and I believe it is about three years now.

Q. Three years ago. Could you fix an approximate time for that, Mr. Grindle?

A. I could fix the exact time that I sold them if I went back through my records. My first order was for 20 units to Pan-American Airways. It was in February, either of '53 or '54. I recall the time of the year, but——

Q. That is close enough. Now who are the other stockholders in Deterget?

A. Is it—I don't know that it is proper for me to answer that. If I am directed so, I will.

Q. Well, I would like to know. I suggest that it is——

A. I would like to ask advice of my counsel in that respect. [195]

Mr. Hohbach: You may answer, Mr. Grindle.

A. All right. I have a Mr. Maurice C. Hanafin.

(Testimony of Eugene L. Grindle.)

Q. Maurice C. Hanafin?

A. Yes. The name is spelled M-a-u-r-i-c-e C. Hanafin—and Dr. E. G. Pickles, Mr. Savage and myself are the stockholders in the corporation.

Q. Does Mr. Hanafin take an active part in the operation of Deterget Company?

A. Yes, he does.

Q. In what way?

A. He is an officer and director and a very valuable counsel in all the business aspects of it.

Q. What about Dr. Pickels?

A. Dr. Pickels the same—very active. We have a routine monthly meeting and frequent meetings in between these formal meetings. Dr. Pickels is a well-known—world-wide known physicist and a very valuable technical counsel to me, and it was Dr. Pickels and myself who are co-inventors of the vacuum cleaner.

Q. And Mr. Savage, what activity does he do?

A. Mr. Savage does all the production work for the corporation.

Q. Production work?

A. He is also a valuable technical counsel, helped with the development of the vibrometer. He and I are co-inventors [196] of the vibrometer.

Q. Now is this action being prosecuted by you or Deterget?

A. This action is being prosecuted by me.

Q. And I assume that you are receiving some backing and financial support in the prosecution of this action?

A. None whatsoever.



(Testimony of Eugene L. Grindle.)

Q. From your backers?

A. None whatsoever.

Q. How then do you reconcile that statement with your testimony of yesterday in which you stated in effect that your stockholders have authorized you to go only so far?

A. No difficulty reconciling that at all, Mr. Naylor.

Q. What do you mean by that?

A. My stockholders have authorized me to spend certain corporation funds in the manufacture and production of dipsticks, and that is all.

Q. Is it your statement then that they are not supporting this action in whole or in part?

A. They are not supporting—the corporation is not providing the funds for this action. I at my sole expense am undertaking this legal action.

Q. Who was the finance group that you mentioned on your direct examination yesterday?

A. Mr. Hanafin and Dr. Pickels primarily; they have other associates down there that have financed me on another item. [197]

Q. And it is your statement that you are not receiving any assistance from that particular finance group?

A. That is correct. My attorneys can testify to that; I am in their indebtedness to some extent.

Q. Now the lawsuit was filed March 27, 1955, was it not?

A. If that is the date shown on it.

(Testimony of Eugene L. Grindle.)

Mr. Naylor: Will you stipulate that that is the filing date?

Mr. Hohbach: Surely.

Mr. Naylor: March 27, 1955.

The Witness: All right.

Q. (By Mr. Naylor): Now as of the date of filing of this complaint, what if anything had you personally done to embark upon the business of producing and selling dipsticks?

A. I had spent considerable time and certain moneys in completely investigating and evaluating the costs of production, the availability of materials, the tools that I would require, the manpower that I would need to do the work, and so forth—very complete studies, so that I had reached the point where my next step would have been to start purchasing materials.

Q. That would have been the next step?

A. That is correct.

Q. And I take it from that statement that as of March 27, 1955, there had been no purchase; is that correct? [198]

A. As of March 27, '55, I believe that is correct.

Q. And I assume by that that you mean there were no purchases of special jigs, dies, tools or fixtures, is that correct?

A. I have never purchased jigs, tools, dies, or fixtures, Mr. Naylor; my production people make them themselves. They are very, very well qualified to make all my tooling—expert machinists.

(Testimony of Eugene L. Grindle.)

Q. All right. You had purchased no materials; that we are in agreement on, isn't that a fact?

A. There might have been some small materials that I purchased, raw stock for making tools and so forth, but there had been very small expense, naturally.

Q. Any purchases that had been made designed especially for dipsticks had been of no consequence?

A. I was very careful not to make any expenditures toward the production of the dipsticks when I had been threatened with a lawsuit by Mr. Welch if I proceeded.

Q. I am glad you raised that point. Let's come to that conference. As I understand it, Mr. Flehr, Mr. Swain, Mr. Hohbach and you appeared in your behalf.

A. Mr. Flehr and Mr. Hohbach.

Q. Not Mr. Swain?      A. Not Mr. Swain.

Q. I will stand corrected. And on Mr. Welch's side, Mr. [199] and J. Bruce Fratis; is that correct?

A. That is correct.

Q. How did that conference open? What was the purpose of calling that conference?

A. The purpose of calling that conference was again to demand the assignment of the patent to me. Not understanding too much about legal matters, I understood that that was the proper approach to this particular program.

Q. This came after there had been an exchange of correspondence between Counsel; is that a fact?

A. Yes.

(Testimony of Eugene L. Grindle.)

Q. And was it your understanding that such an exchange of correspondence had been terminated with a flat rejection on behalf of Mr. Welch of any claim asserted by you?

A. I believe they used words to that effect in Mr. Fratis' letter, yes.

Mr. Naylor: That is the whole file of correspondence. I would like to offer it so that the record is illuminated. Mr. Hohbach is going to be good enough to check his file to see that our file is complete on that.

Q. I assume that there was some preliminary discussion of your demand for an assignment; is that correct?

A. Yes.

Q. And then as I understood it yesterday, Mr. Flehr asked Mr. Welch if he would take action or sue for infringement [200] if you, Mr. Grindle, made the dipstick; is that correct?

A. That is correct.

Q. And what was the answer?

A. Mr. Welch stood up with a great flair and pointed to a drawing, Plaintiff's Exhibit 6, and said that I could make that dipstick; but then he pointed to the other drawing, Plaintiff's Exhibit 8, which embodies the design of the dipstick in question here, and said that if I produced that one he would sue me—he would bring suit against me.

Q. Did he use the word "sue"?

A. I believe he used the words that he would enforce his patent against me.

Q. Are you sure he used those exact words?

(Testimony of Eugene L. Grindle.)

A. He used the words "enforce his patent."

Q. Did he use those words or did Mr. Flehr use those words?

A. Mr. Welch used those words, very vehemently and with great flair and standing up and waving his arms at these drawings.

Q. Did you understand or did you hear Mr. Welch say that he would enter into no agreement with you whereby you would be permitted to make the subject matter dipstick of Plaintiff's Exhibit 8?

A. No; the only discussion on whether he would enter into an agreement with me was whether or not he would agree to assign the patent over to me. I was not interested in [201] negotiating any other agreement with Mr. Welch.

Q. And that was about the sum and substance of that particular conference?

A. Yes, it was. Mr. Fratis on one or two or possibly three occasions jumped up there and says, "If that's the way it is going to be, we'll get out of here." And they settled down again and talked some more.

Mr. Naylor: If Your Honor please, I think it might be well to have this exchange of correspondence in the record which both sides agree is the exchange between counsel.

The Court: Very well.

Mr. Naylor: And since I do not personally have photostatic copies of it, I wonder if it would be permissible for us to mark this as Defendant's



(Testimony of Eugene L. Grindle.)

next in order for identification so that we may have photostatic copies prepared?

The Court: That will be satisfactory.

Mr. Naylor: Thank you, Your Honor.

The Clerk: Defendant's Exhibit B for identification.

(File of correspondence marked Defendant's Exhibit B for identification.)

Mr. Naylor: It will be understood then that we may withdraw that for photostating purposes, Your Honor?

The Court: That is right.

Q. (By Mr. Naylor): Now Mr. Welch has never had any dealings with Deterget Company, has he? [202] A. None whatsoever.

Q. And Mr. Welch has never threatened Deterget Company in any manner, has he?

A. No, he hasn't.

Q. There have been no relations whatsoever?

A. None. Deterget Corporation is not a party to this action.

Q. Will you be good enough to examine the soft copy of the Welch patent, Plaintiff's Exhibit 2, and the print of the April 28, 1948, drawing, Plaintiff's Exhibit 6, with particular reference to Claim 1 of that patent. A. All right.

Q. You have already testified that you have a familiarity with Claim 1? A. Yes, I have.

Q. Now will you consider the language of Claim 1 of the Welch patent and state whether or not it



(Testimony of Eugene L. Grindle.)

has any applicability to the dipstick that you illustrated in your April 28, 1948, drawing, Plaintiff's Exhibit 6?

A. Is there any similarity between the two?

Q. I didn't ask that. Does Plaintiff's Exhibit 6 satisfy the definition of the device in Claim 1? If you have any difficulty with it, just say so, and I will ask specific questions.

A. Claim 1, as well as Claims 2 and 3, covers the sealing—the method of sealing the end in the tubes. My drawing, [203] Plaintiff's Exhibit 6, calls for an extrusion. No; nothing on there about how to assemble a dipstick or how to seal the ends.

Q. There is a greater difference than that, isn't there, Mr. Grindle?

A. It is about as great a difference as there could be when one doesn't even call for an end to be sealed and the other one is devoted to how to seal the end.

Q. I mean other than the sealing?

A. Other than the sealing, it describes the tubing as being a tubular body of transparent material, a reinforcing bar within the set body, and having grooves therein and graduated scales thereon on opposite sides of said grooves.

Q. All right. Now let's go back to it specifically. In Plaintiff's Exhibit 6—I take it that you are in agreement that that is a liquid measuring gauge comprising a tubular body of transparent material; is that correct?

(Testimony of Eugene L. Grindle.)

A. I do. I contend that it is a drawing of an extrusion intended for that purpose.

Q. I will abide by that; I will go along with that. Now are we in agreement that you contemplated for use in Plaintiff's Exhibit 6 a reinforcing bar within said body? Will you go with me on that?

A. Absolutely.

Q. Now I would like to ask you if that reinforcing bar was [204] to have grooves therein?

A. Obviously not.

Q. Now there we are in disagreement, aren't we? In other words, it doesn't have grooves?

A. It does not have grooves.

Q. Was it intended to have graduated scales on the reinforcing bar on opposite sides?

A. On all four sides.

Q. Yes. Did Plaintiff's Exhibit 6 contemplate transparent measuring tubes within said grooves with their opposite ends extending beyond the length of the body?

A. You have already established that there were no grooves, so it wouldn't be related.

Q. And you have already said that Plaintiff's Exhibit 6 did not purport to illustrate end sealing means; is that correct?

A. That is correct. We have already established that at this time we were only asking for extrusions from an extrusion manufacturer.

Q. Now will you please examine Plaintiff's Exhibit 5, Mr. Grindle, and again in the language of Claim 1 of the Welch patent, I would like to ask

(Testimony of Eugene L. Grindle.)

you if that particular replica—it is a replica, is it not?      A. It is a replica.

Q. And it was made fairly recently, was it not?

A. Yes, it was. [205]

Q. I would like to ask you if that is a liquid measuring gauge comprising a tubular body of transparent material?      A. Yes, it is.

Q. Is it laminated?      A. Correct.

Q. And does it have a reinforcing bar within said body?      A. Yes, it does.

Q. Now in that particular exhibit, Plaintiff's Exhibit 5, does the reinforcing bar have grooves therein?      A. No, it does not.

Q. It does not. Does it have graduated scales thereon on opposite sides?      A. Yes, it does.

Q. And does Plaintiff's Exhibit 5 have transparent measuring tubes within said grooves?

A. Yes.

Q. It does?      A. Yes, it does.

Q. Would you please explain that?

A. Well, Your Honor, the transparent measuring tubes within the said body are these grooves on all four sides running the entire length of the assembly.

Q. Actually, though, in Plaintiff's Exhibit 5, what you now term to be transparent measuring tubes are wholly contained within the outer shell of the structure; is that [206] not correct?

A. That is correct.

Q. So you would not have believed that the trans-

(Testimony of Eugene L. Grindle.)

parent tubes were situated in grooves in the reinforcing bar?

A. No, I would not. I think the exhibit speaks for itself as to where the grooves are located.

Q. Did you say tubes or grooves—where the tubes are located?

A. Tubes or grooves, you can call them either one. They are one and the same thing.

Q. Now does Plaintiff's Exhibit 5 have transparent measuring tubes with their opposite ends extending beyond the length of said body?

A. No, it does not.

Q. It does not. Does Plaintiff's Exhibit 5 have plugs in the opposite ends and hermetically sealing the ends of said body against the entrance of liquid within said bodies surrounding said measuring tubes?

A. Yes, it does.

Q. And what is the order of thickness of the end plugs in Plaintiff's Exhibit 5?

A. They are relatively thin; they are approximately a sixteenth of an inch thick.

Q. A sixteenth of an inch?

A. Correct. [207]

Q. And with what were they cemented into the structure, Mr. Grindle?

A. With what cement?

Q. Yes. A. With acetone.

Q. Acetone? A. Acetone.

Q. And I assume that you had acetone available at Pan Am when this particular replica was made?

A. By the barrellfuls, Mr. Naylor.

Q. Is it your testimony, Mr. Grindle, that this

(Testimony of Eugene L. Grindle.)

is an exact replica of the device that was caused to be sent to Plastics Process Company of Los Angeles?

A. Physically, structurally, the shape, the size and everything is an exact replica. There is only one minor difference.

Q. What is that?

A. That is in the materials. When I had this made up we didn't have any sixteenth inch flexiglass available in stock of the length required here, so it was made of polyvinolchloride, which we did have in stock. So the only difference is the actual plastic material here. We used flexiglass or lucite on the first one because it is a much clearer plastic.

Q. But except for that there was no difference between the [208] replica and the original device?

A. Well, the actual graduation in this thing, I drew this by hand; in the original one it was drawn with a Leroy lettering set.

Q. Now were there any other differences?

A. None whatsoever. Those are the only differences.

Q. I take it then that it is your testimony that the original sample in May of 1948 had its ends sealed with plugs; is that correct?

A. Oh, absolutely, the stick—it would not have been a dipstick unless the ends were sealed.

Q. Was any test conducted with the original sample?

A. None whatsoever, Mr. Naylor. I explained yesterday that there would have been no purpose

(Testimony of Eugene L. Grindle.)

in conducting destruction tests of the original sample because it was a preliminary design intended to be made into an extrusion; that some time as we had assembled a dipstick of a production extrusion material, it would have been tested to destruction. This particular sample or the sample at that time was submitted to a functional test to see if the fluid level would be readable and so forth, and it passed that very adequately.

Q. And that was the only test?

A. That was the only test, yes.

Q. Now this morning and yesterday afternoon on the direct examination of Mr. Hohbach, you gave your testimony as to [209] what you believed was or was not invention, did you not?

A. Yes, in relation to the claims in the patent.

Q. What is your definition of invention, Mr. Grindle?

A. My definition of invention is the development or design of something completely new that has never been used before, or the combination—a new combination of ideas that have been developed before. And personally I do not recall any what I would consider basic inventions for many, many years unless they have been in the atomic research field or something like that.

Q. From whence did you gain this understanding of invention that you have just recited?

A. Oh, in my design relationships and patent relationships over the past twenty years.

Q. Did you have any conversation about that



(Testimony of Eugene L. Grindle.)

definition with Mr. Hohbach before the commencement of this trial?

A. Why, I have had conversations with Mr. Hohbach and have consulted them on different things many times ever since my association with them, which has been over five years.

Q. I assume that you have, sir; but my question was, before the commencement of this trial, did you have specific conversations with Mr. Hohbach concerning what is an adequate definition of invention? A. I can't say that I did, no.

Q. So that your criterion of invention is based solely upon [210] an accumulated sum total of knowledge gained by you over a period of years in your contact with patent matters; is that correct?

A. Not just my contact with patent matters, but I have been associated with design engineers for the past twenty years and patents have been discussed quite often, and designs have been discussed for the application of patents and so on. It is a rather common topic of conversation among design engineers.

Q. I assume it would be. Do you subscribe personally for the United States Patent Office Gazette? A. No, I do not.

Q. Have you ever had occasion to examine the United States Patent Office Gazette?

A. Yes, I have.

Q. On a week-to-week basis?

(Testimony of Eugene L. Grindle.)

A. No, I have never done it as a routine matter.

Q. So you don't profess to be abreast of the technological advances and inventions that are made in the many fields for which patents are granted, do you?

A. No, not at all.

Mr. Naylor: Your Honor, that just about completes my cross-examination. I wonder if we might halt at this point, and I would like to double check my notes and boil it right down to the very essence. [211]

The Court: Very well. Do you want to come back at 1:30 or 2:00?

Mr. Naylor: May I ask your indulgence today to come back at two? I have a matter with one of the U.S. Attorneys and I am supposed to go down and see if there are some papers at the office. That will be the only opportunity I will have.

The Court: We will adjourn then until 2:00 o'clock.

(Whereupon an adjournment was taken until 2:00 o'clock p.m., same day.) [212]

Thursday Afternoon Session, February 9, 1956, 2:00

EUGENE GRINDLE

resumed the stand; previously sworn.

Cross-Examination

(Continued)

By Mr. Naylor:

Q. Mr. Grindle, do you recall making an affidavit in this case on May 25, 1955? A. Affidavit?

Q. Yes.

A. I would have to see it to remind me of that. Are you referring to the deposition?

Q. No, an affidavit. I will show you, Mr. Grindle, Plaintiff's affidavit in opposition to Defendant's motion to dismiss, this being the service copy that we received as counsel for Mr. Welch, and will ask you if you recall making that affidavit.

A. Yes, I am.

Q. Will you examine paragraph 7 thereof?

A. All right.

Q. You have examined it?

A. I have examined it.

Q. It contains the statement, does it not, that the dipstick shown in patent 2,534,644, and then it has reference to a printed copy of the patent—is substantially identical to that in drawing D-32.016.-114, which is Plaintiff's Exhibit 8 [213] in this case; is that not a fact? A. That is a fact.

Q. And then it goes on to say, "and that he"—meaning you—"has been informed that Claim 1 of the patent covers the dipstick shown in drawing

(Testimony of Eugene L. Grindle.)

D-32.016.114.” A. That is correct.

Q. That is correct, is it not? Now, what about Claims 2 and 3?

A. Claims 2 and 3 differ from Claim 1——

Q. And I take it you were therefore not informed or advised that Claims 2 or 3 cover the subject matter of Plaintiff's Exhibit 8 in this case.

A. As we have gone through, Claims 2 and 3 differ from Claim 1 only to the extent that they call for the end plugs, rather than just being plain plugs——

Q. I am aware of that.

A. ——to be laminated.

Q. I am aware of your differentiation between the claims, but I ask again: I take it that you were not informed by your counsel that Claims 2 or 3 covered the subject matter of Plaintiff's Exhibit 8.

A. Well, I believe I was to the extent that they embody in essence the same thing as Claim 1 did.

Q. Well, do you have a positive recollection of that?

A. Well, it has always been my understanding since we first [214] reviewed this patent that the three claims were evolving the same detail in the dipsticks, and there wasn't much question whether I was advised specifically in writing or verbally by my counsel; I couldn't recall.

Q. How, then, do you account for the fact that Paragraph 7 of this May 25th, 1955, affidavit makes specific reference to Claim 1 only?

A. Only because it is referring to—it makes

(Testimony of Eugene L. Grindle.)

specific mention of this drawing, Plaintiff's Exhibit 8, and there has never been any claim on my part that that drawing called for laminated plugs in the end. This Paragraph 7 relates specifically to this drawing, Plaintiff's Exhibit 8.

Q. And you do not contend now, do you, that drawing 114, which is Plaintiff's Exhibit 8, called for a laminated plug structure?

A. I call now for the fact that the drawing now as well as that time called for a plug in the end. How that plug was put in there, whether it was laminated in or put in with cement or put in as a solid block, ends up as a solid block no matter how it was put in there.

Q. That's your present interpretation?

A. That is correct. Did Your Honor see that affidavit?

The Court: It hasn't been offered in evidence yet.

The Witness: Oh. Excuse me.

Q. (By Mr. Naylor): Now, coming back to that very same [215] question again, has your counsel ever advised you that claims 2 and 3 covered the subject matter of Plaintiff's Exhibit 8?

A. The matter has been discussed quite thoroughly between my counsel and myself regarding the physical difference between a laminated structure and a solid plug, and in essence I came away from those discussions with the clear understanding that Claims 2 and 3 also covered essentially the

(Testimony of Eugene L. Grindle.)

same thing as Claim 1 and were more or less covered by the drawing calling for the end plug.

Q. Now, you have explained your answer. I would like to have the answer. Has your counsel ever specifically advised you that Claims 2 and 3 of the Welch patent covered Plaintiff's Exhibit 8?

A. I cannot answer that specifically unless my counsel can produce some written document to that effect, which I might recall if I read it.

Q. Do you know of the existence of any such document? A. No, I don't.

Q. And it is true, is it not, Mr. Grindle, that as of May 25, 1955, they had not so advised you, isn't it?

A. I did not say that they hadn't advised, Mr. Naylor.

Q. Well, I say, it is true as of May 25, 1955, they had not so advised you?

A. I did not say that at any time they did not advise me. I don't recall whether they did specifically or not. [216]

Mr. Naylor: I will offer that affidavit, Your Honor, as defendant's next in order, if I may. I will have to produce a copy of it.

The Court: It will be received in evidence.

The Clerk: Defendant's Exhibit C in evidence.

(Whereupon affidavit referred to was received in evidence and marked Defendant's Exhibit C.)

Mr. Naylor: Mr. Swain has been kind enough



(Testimony of Eugene L. Grindle.)

to supply me with a conformed copy of that affidavit. I assume that will be satisfactory to the Court.

The Court: Yes.

Mr. Naylor: It will be satisfactory to us.

Q. Now, yesterday Mr. Grindle, under direct examination you testified concerning the occasion of Mr. Welch's second visit to you at Pan American.

A. Yes.

Q. This was the visit following the initial visit in which you gave him a copy of Plaintiff's Exhibit 4; isn't that correct?

A. What is Plaintiff's Exhibit 4?

Q. That is the April 28th, 1948, drawing—I mean 6; I beg your pardon. 6.

A. Exhibit 6?

Q. Exhibit 6.

A. That is the drawing—that is the extrusion drawing? [217]

Q. That's right, sir.

A. And you said I gave that to him on the first or second visit?

Q. On the first visit.

A. On the first visit; that is correct.

Q. What actually happened on the occasion of the second visit?

A. On the occasion of the second visit there was possibly some contact with Mr. Welch, I believe, by telephone prior to his first visit and the time that he returned with the material from Los Angeles. I might have called him and asked him if he had heard anything or something like that. But what I can remember is his—what I believe was his

(Testimony of Eugene L. Grindle.)

second visit, he had received material from Los Angeles and he brought that in to me in the form of a three foot length of square plastic extrusion and two three-foot lengths of quarter inch o.d. of round plastic extrusion.

Q. All of these pieces were three feet in length; is that correct?

A. Approximately three feet in length.

Q. Well, was there a difference?

A. I didn't measure, Mr. Naylor.

Q. Did you compare them as to length?

A. At least—the tubes as to length?

Q. Yes. [218]

A. I can't recall that I did. If you are getting at was the round tube an eighth of an inch longer, it possibly was.

Q. It possibly was. Now, can you fix the time of this second visit, Mr. Grindle?

A. The second visit?

Q. Yes, sir.

A. Yes, it was approximately the middle of May; take or add a day or two from the middle of May.

Q. Middle of May, 1948?

A. That is correct.

Q. Now, where were you when Mr. Welch came to you on that visit?

A. I was sitting in my chair behind my desk in Room 205 of the hangar building just to the left of the door. My office is on the west side of the hangar, in the middle of the hangar.

Q. Were you alone at the time?

(Testimony of Eugene L. Grindle.)

A. I was in a room that seated at that time seven engineers. My desk was a little way from the general group of desks. I was over on the east wall of the office building and the other desks were over on the west wall.

Q. Did the conversation that ensued with Mr. Welch take place at your desk?

A. At my desk.

Q. Did any persons other than Mr. Welch and yourself [219] participate in this conversation?

A. No one.

Q. The two of you.

A. Just the two of us.

Q. And approximately how long did this conversation last?

A. Fifteen minutes at the most.

Q. Now, will you give again the remarks made by Mr. Welch upon producing, as you say, the three pieces of tubing?

A. Yes. I naturally could not quote his exact words, but they were that he was advised by his company and in Los Angeles that the extrusion embodied in my drawing, Plaintiff's Exhibit 6, would be costly to manufacture or to produce; that they had this stock material, this particular material he brought with him in stock as a standard item, and asked if that could be used in the design of the dipstick.

Q. And what reply, if any, did you make to that?

A. I looked at the material. I could immediately vision the application of that material to a com-

(Testimony of Eugene L. Grindle.)

pleted dipstick product, and said that I believed it would do the job and be satisfactory.

Q. And what was the closing of that conversation? On what note did it close?

A. It closed on the note that I would make up a drawing and that we would manufacture a stick like that and test it and see if it would be acceptable. [220]

Q. Is that all there was to the second visit by Mr. Welch? A. Just about all.

Q. And did you retain the three pieces of tubing that he produced? A. Yes, I did.

Q. And what did you do next after that conversation with Mr. Welch?

A. I would like you to understand, Mr. Naylor, that this dipstick project at Pan American has taken on a great amount of importance in this court case, but it was a relatively minor phase of my work at Pan American. But as soon as I had the opportunity—and I can't recall whether it was immediately, that day, the next day, or how soon—I took this material in the drafting room to the drafting supervisor, Mr. Ray Chong, and discussed with him the making of a drawing of a complete dipstick using this material, and I left the plastic with him. I made the sketches at the time, discussing how I wanted it drawn, how I wanted the calibration placed on it and how I wanted the filler cut to accommodate the tubes and how I wanted the ends sealed.

(Testimony of Eugene L. Grindle.)

Q. And would you describe for us the characteristics of the wooden filler that you sketched in these sketches?

A. Yes; they were to be routed out round to fit the contour of this small round tube that was in opposite corners [221] of the assembly.

Q. And were there any other characteristics to be imparted to the wooden core other than those you have enumerated?

A. Yes; the drawing itself required very accurate, detailed layout in order that the wood size and shape would be such that the associated calibration paper could be submitted on there and would be positioned properly on the wooden filler. It was a very important part of the layout. Mr. Chong, possibly because of that layout requirement or consideration, made the drawing himself.

Q. Can you approximate for us when it was you delivered the material you have just been describing to Mr. Chong?

A. I would say that it was within a day or two of the time that Mr. Welch brought it in. I couldn't say exactly.

Q. And according to Plaintiff's Exhibit 8, Mr. Chong's work was completed on——

A. June 4th.

Q. June 4th, 1948; is that right?

A. That is correct.

Q. Now, I gathered from your testimony of yesterday that you had no problem in visualizing how the three pieces of tubing presented to you by

(Testimony of Eugene L. Grindle.)

Mr. Welch could be incorporated into a satisfactory dipstick; is that correct?

A. None whatsoever.

Q. And you say that the sketches and material that you [222] handed to Mr. Chong were presented to him within the space of a couple of days; is that correct?

A. That is correct.

Q. How do you account for the fact, then, that it took until June 4th to prepare the drawing?

A. As I tried to explain, Mr. Naylor, Pan American Airways is a large corporation and have considerable amount of work. I specifically recall that Mr. Chong and his group were heavily loaded at the time. We were engaged in a complete fire control modification of our aircraft with a deadline facing us. That work took priority; this was an incidental job. Mr. Chong did not get to this job for at least ten days after it was assigned to him, or after I took it in to him.

Q. And yet there was some degree of urgency in the procurement of these dipsticks by Pan American?

A. None whatsoever.

Q. Well, then, how do you account for the fact that there is a thirty day delivery date specified on the purchase order?

A. Only because Mr. Welch told us that he could deliver them at such and such a time, and we set up the procedures to accommodate a couple of weeks later. There was no urgency involved.

Q. No urgency? [223]

A. No; just a very routine matter. When we



(Testimony of Eugene L. Grindle.)

would get an approximate delivery date, we usually give a little cushion on that and then set up for it accordingly. We had been flying these airplanes by that time for five years or more with the old dipsticks.

Q. After Mr. Chong finished the drawing on June 4th, 1948, I assume that it came to you eventually for approval as indicated on Plaintiff's Exhibit 8?

A. That is correct.

Q. And that date was June 7th, '48?

A. That is correct.

Q. Now, can you tell us what occurred between June 4th, 1948, and the issuance of the Pan American purchase order on June 10, 1948?

A. I would—between June 4th?

Q. Yes.

A. And the issuance of the purchase order?

Q. Yes, sir.

A. About June 4th or 5th, an advance copy of that drawing along with a copy of a calibrated scale—full size scale drawn with Leroy, was given to Mr. Welch along with the plastic material that he had brought in to assemble a complete dipstick and return to us for testing.

Q. And do you recall approximately when it was returned to you for testing? [224]

A. On approximately June 7th or 8th—I am sorry; June 6th or 7th.

Q. June 6th or 7th?

A. That is correct.

(Testimony of Eugene L. Grindle.)

Q. And then you proceeded to make the tests as you detailed yesterday, is that correct?

A. That is correct. I didn't make them myself. I called in an assistant chief flight engineer, Mr. Hal Schmidt, to participate in the tests with me.

Mr. Naylor: That is all, Your Honor.

Mr. Hohbach: Your Honor, we have several questions we would like to ask Mr. Grindle on re-direct, but as you can see, we have three witnesses here that have come in from Pan American. They are still working for Pan American and they are coming in more or less on their own time, so we would like to get their testimony in this afternoon. So we are wondering if we could interrupt at this time——

The Court: That is satisfactory to me if it is to Mr. Naylor.

Mr. Naylor: That is entirely satisfactory, Your Honor.

The Court: You may step down.

Mr. Hohbach: Mr. Montoya.

## HERBERT W. MONTOKA

called as a witness on behalf of the plaintiff;  
sworn. [225]

The Clerk: Please state your name and occupation for the record.

A. Herbert W. Montoya.

## Direct Examination

By Mr. Hohbach:

Q. What is your occupation?

A. Foreman in the wheel shop, Pan American Airways.

Q. You are employed by Pan American, is that correct?      A. That is right.

Q. How long have you been employed by Pan American?      A. Almost 15 years.

Q. Will you describe your position at the present time?

A. I am a master mechanic in the equipment shop.

Q. Do you know Mr. Grindle?

A. I do.

Q. How long have you known him?

A. Oh, since about '47, I believe, late.

Q. Have you worked with plastics?

A. Not up to that time I hadn't.

Q. That was your first contact with plastic work, is that correct?      A. In that——

Q. What time are you speaking of?

A. Well, it was early in '48. I don't know the exact date.

(Testimony of Herbert W. Montoya.)

Q. Did Mr. Grindle ask you to make up a sample dipstick? [226] A. Yes, he did.

Q. Do you remember the construction of this dipstick? A. I do.

Q. Did he ask you to make up more than sample dipstick?

A. Well, we started making on one design and found out we couldn't make it hold the liquid so we changed it to the second.

Q. Can you sketch from memory the first design that you are speaking of that wouldn't hold liquid?

A. I believe I could.

Q. Do you want to make a sketch here showing roughly what the first design was? (Handing paper to witness.) What is the center part? Could you label it? A. The center is wood.

Q. Now what size was that?

A. I don't remember what size the wood was.

Q. What is that layer that you have shown on the outside of the wood? A. This is plastic.

Q. What kind of plastic was it, do you remember?

A. It was either plexiglass or lucite. I believe it was lucite that we were using. I am not a very good artist. This was all—the outside of that wood was all plastic.

Q. How was it made up with plastic?

A. Well, it was cut into long, narrow strips, and all [227] glued together.

Q. Where did you get the narrow strips?

(Testimony of Herbert W. Montoya.)

A. We cut them out of material that we got out of stock.

Q. How thick were these sheets?

A. I believe they were a sixteenth or a little better; I don't remember exactly the size.

Q. Did this incorporate a scale?

A. Yes, it did. The wood—Mr. Grindle brought down a wooden stick with a scale already glued on it. It was a piece of paper wrapped around the stick.

Q. Where were the fluid columns in the stick?

A. In the first one we made, the fluid columns were on the corners, and that's why we couldn't get the fluid to hold where we had glued it, so we later changed and in the next design we made the fluid columns in the center.

Q. How were the ends constructed on this sample?

A. Well, the wood was just a little bit shorter than the length of the plastic and there was a plug put in right over the top of the wood to seal off the wood and keep it from getting wet by the fuel.

Q. How thick was this plug?

A. It was the same material as we used for the sides; it was probably a sixteenth or a little better.

Q. Did you actually check this stick to see whether it was? [228]

A. We did.

Q. How did you do that?

A. By putting it into a can of water, holding your finger over the end of the stick and pulling it out to see if the fluid would hold.

(Testimony of Herbert W. Montoya.)

Q. You had trouble with leaking on this stick?

A. The first one we did, yes.

Q. Would Mr. Grindle come in and check to see what progress you were making with that stick?

A. Very frequently.

Q. When you found out that this one was leaking, what did Mr. Grindle suggest?

A. He suggested that we change the fluid column from the corners of the stick and put it in the center.

Q. Did you do that?           A. We did.

Q. Did you make up another stick?

A. We made up several. We had a little trouble gluing this material, narrow strips, together and we did get one that would hold.

Mr. Hohbach: May I offer this in evidence as Plaintiff's next in order?

The Court: All right. Let it be received and marked. You better mark that Montoya so that we will know and differentiate between the one Mr. Grindle drew. [229]

The Clerk: Plaintiff's Exhibit 25 in evidence.

(Diagram drawn by Mr. Montoya was received in evidence and marked Plaintiff's Exhibit No. 25.)

Q. (By Mr. Hohbach): You went ahead and constructed the second dipstick, is that correct?

A. Well, the second one was the one he decided he wanted.

Q. Did you test that dipstick?           A. We did.



(Testimony of Herbert W. Montoya.)

Q. Has Mr. Grindle recently had a dipstick made up in your department? A. Yes, he did.

Q. Who made up the dipstick?

A. One of my boys made it under my supervision.

Q. Is this the dipstick that was made up? It is Plaintiff's Exhibit 5. A. Yes, it is.

Q. As far as you can remember, does that resemble the dipstick that you made up for Mr. Grindle?

A. Yes, it is. It is pretty much the same except the material is different.

Q. How is it different?

A. Well, this is polyvinylchloride and the other was either a lucite or plexiglass.

Q. Are the fluid columns in this in the same position as the samples you made for Mr. Grindle? [230]

A. Yes, just about the same.

Q. Did the sample that Mr. Grindle accepted have end plates in it? A. It did.

Q. Does this one have end plates in it?

A. It does.

Q. Did the second sample you constructed for Mr. Grindle have a scale in it?

A. Yes, it did.

Q. And you actually checked that stick to see that it was operable; is that correct? A. Yes.

Q. Can you fix the approximate date when these samples were made?

(Testimony of Herbert W. Montoya.)

A. Well, it was early in '48, probably—as close as I could remember, it was early in the spring of '48; probably, oh, March or May; somewheres around in there. I don't know exactly the date.

Mr. Hohbach: That concludes my examination, if your Honor please.

Mr. Naylor: I have just one or two very short questions.

Cross-Examination

By Mr. Naylor:

Q. Mr. Montoya, I take it that you are not an expert in plastics; am I correct? [231]

A. No, I don't—I am not.

Q. You have not been educated in the chemistry of plastics have you? A. No, sir, I haven't.

Q. In your work in producing these models, I take it that you took your directions from Mr. Grindle? A. That's right.

Q. Is that correct, sir? A. Yes.

Q. And I understood you to say that Mr. Grindle frequently came to your part of the establishment to check the progress of your work?

A. Yes, he did.

Q. You mentioned that I think it was the first sample leaked. A. Yes, sir.

Q. Was it the first sample that leaked?

A. Yes.

Q. Could you tell us what was the cause of it leaking?

A. Well, at the time we were trying to glue

(Testimony of Herbert W. Montoya.)

all these real narrow strips together and we just couldn't get them glued—cut together—you know, cut straight enough and get them glued so that they couldn't leak.

Q. Was that because of the irregularity of the cuts or type of cement or both? [232]

A. It could have been both.

Q. It could have been both? A. Right.

Mr. Naylor: Thank you, very much, sir.

Mr. Hohbach: That is all, Mr. Montoya.

The Court: You may be excused, Mr. Montoya.

Mr. Hohbach: Mr. Chong.

### RAYMOND A. CHONG

called as a witness for the plaintiff; sworn.

The Clerk: Please state your name and occupation for the record.

A. Raymond A. Chong, drafting supervisor, Pan American Airways.

### Direct Examination

By Mr. Hohbach:

Q. You stated that you were drafting supervisor for Pan American. How long have you been in that position?

A. Approximately 12 years.

Q. Do you know Mr. Grindle? A. I do.

Q. How long have you known him?

A. Approximately ten years.

Q. Are you familiar with the dipsticks used by

(Testimony of Raymond A. Chong.)

Pan American?           A. Yes; I am. [233]

Q. What was your first contact with the dipsticks?

A. I made the drawing for Mr. Grindle on this dipstick. That was my first contact.

Q. Did Mr. Grindle actually come in to see you?

A. Yes; he did.

Q. What did he bring with him?

A. He brought along a sketch and some square tubing and some round tubing.

Q. Did he describe to you how they were to be used in making up the dipstick?

A. He—well, I wouldn't have verbal instructions from him because his sketches——

Q. Were these pieces he gave you in a separate state?

A. They were loose parts, as I remember.

Q. Did you make a drawing of that after Mr. Grindle had requested you to make the same?

A. Yes; I made the drawing.

Q. Why did you make the drawing?

A. I do a lot of drawing. Even though I supervise, I do a lot of drawing and at that time this particular job was more or less a fill-in job for me; wherever I have time left over, then I would be on the board doing some drawing.

Q. Did Mr. Grindle show you any other drawing besides the sketches that he gave to you?

A. I don't recall seeing any other drawing. [234]

Q. How long did it take you to complete the drawing?

(Testimony of Raymond A. Chong.)

A. I can't say, because I do a lot of other work besides drawing. I may spend two hours one day or I may spend three hours the next.

Q. Do you remember that this drawing took you quite a long time to finish?

A. It did. Comparing to the job, I would say it took a long time.

Q. Is it a common practice to make advance prints of drawings at Pan American?

A. We have done that.

Q. Could Mr. Grindle have obtained an advance print of this drawing?           A. He may have.

Q. You don't remember that?

A. I don't recall, no.

Q. Did Mr. Grindle make frequent visits to your department to check on the progress of this drawing?           A. Yes; he did.

Q. What did you do when you had completed the drawing?

A. When a job is completed, why, I usually turn over all the information and whatever samples and parts I have back to the engineers.

Q. Can you generally describe the dipstick that you showed in the drawing? [235]

A. The dipstick is a square plastic shell with two round tubings at opposite corners with a wood filler in between.

Q. Would you be able to identify the drawing if I showed it to you?           A. Yes; I would.

Q. I am now handing the witness Plaintiff's Ex-

(Testimony of Raymond A. Chong.)

Exhibit 8. Is this a copy of the drawing which you made up?      A. Yes; it is.

Q. Does the drawing bear your initials?

A. Yes, it does.

Q. And what date did you initial the drawing?

A. June the 4th, 1948.

Q. What does that indicate to you?

A. This is the date that the drawing was pulled off the board, finished.

Q. Then the person that gave the work to you, does he sign at a later date?

A. That is up to the individual, whether he has time then it or not.

Q. Who signed the drawing after you signed it?

A. I see Mr. Grindle's signature as being the checker. Mr. Smith approved and Mr. Kiester approved it.

Q. Have you seen the original of this drawing?

A. The original vellum? [236]

Q. Yes.      A. Yes, I did.

Q. Have you checked it recently?

A. Yes, I have.

Q. Does it show anything that is not shown on this copy of the drawing which I just gave you? I am referring to Plaintiff's Exhibit 8. Does the original show anything that is not shown on this copy of the drawing?

A. The original is exactly like this copy.

Q. Does it show anything that isn't shown on this copy?      A. I don't quite get the question.



(Testimony of Raymond A. Chong.)

Q. Does the original have something on it which does not reproduce very well?

A. Yes, there are little erasures or ghost marks of the original dimensioning and information.

Q. You are able to read that from looking at the original and holding it up against the light—you were able to see what the erasures or deletions were; is that correct? A. Somewhat, yes.

Q. Did you transfer the information that you could read on that drawing to another copy of the drawing? A. Yes, I did.

Q. Are these the transfers that you made?

A. Yes.

Q. This was done—this is your own [237] handwriting? A. That is correct.

Q. It is shown in red pencil? A. Yes, sir.

Q. And these are the only things that you could read clearly, is that correct?

A. That is correct.

Mr. Hohbach: Your Honor will note there are several dimensions on here and reference to that No. 12 block which we have been speaking of, which was erased off of the drawing when they made the change.

Q. In other words, this portion here to which you have directed my attention is what Mr. Chong wrote in?

Mr. Hohbach: Right.

The Court: I see.

Q. (By Mr. Hohbach): You took this information from the original copy of the drawing; is that

(Testimony of Raymond A. Chong.)

correct?       A. That is correct.

Q. That is not from your memory?

A. Not from my memory.

Mr. Hohbach: I offer this in evidence as Plaintiff's next in order.

Mr. Naylor: No objection.

The Court: Let it be received.

The Clerk: Plaintiff's Exhibit 26 in evidence.

(Whereupon, drawing referred to was received in [238] evidence and marked Plaintiff's Exhibit No. 26.)

Q. (By Mr. Hohbach): Referring to Plaintiff's Exhibit 8, was this drawing made for the particular purpose of putting a part number on the dipsticks?       A. No, sir.

Q. What was the purpose of the drawing?

A. The purpose of the drawing was for manufacturing information which we send down to our shops.

Mr. Hohbach: That concludes the direct.

### Cross-Examination

By Mr. Naylor:

Q. Mr. Chong, in connection with your last answer, it is a fact, is it not, that the number of the drawing—that you place upon the drawing, becomes the parts number?       A. That is correct.

Q. Now, what is the practice in your department at Pan American with respect to making a

(Testimony of Raymond A. Chong.)

drawing? On that kind of paper do you make the original?

A. We make our drawings on vellum paper.

Q. That is pretty much conventional practice, isn't it, Mr. Chong?      A. That is correct.

Q. And it is also the practice at Pan American, is it not, when changes are noted, or rather, when changes are made in the drawing, they are made on the original vellum? [239]

A. That is correct.

Q. And that drawing is made customarily in pencil, is it not?      A. That is right.

Q. And there is a reason for that, isn't that right?      A. That is correct, yes.

Q. To permit correction and amendment as required?      A. That is right.

Q. Through the simple expedient of a soft eraser and then the addition of the amendment or the correction; isn't that the case?      A. That is right.

Q. That is common drafting practice, isn't it?

A. That is right.

Q. Now, as I understand, it is also the practice of your department when changes are made to denote those changes and corrections in the upper righthand corner of the drawing?

A. That is right.

Q. In that event, the upper righthand corner becomes a chronological cataloguing, that is, a date by date cataloguing of any changes that might be made in the original vellum; is that correct?

A. That is correct.

(Testimony of Raymond A. Chong.)

Q. And so if we were to examine the print which has been introduced here as plaintiff's Exhibit 8 and we wanted to know [240] what changes have been made in the original vellum of that drawing, we would have an indication in the upper righthand corner, would we not?

A. That is correct.

Q. And we would add to that only the phantom marks that you were able to read and to add by red ink to Plaintiff's Exhibit 26 which you spoke about; isn't that true?

A. That is correct.

Q. Am I clear on that? I am not trying to confuse you.

A. Yes, that is correct.

Q. In other words, to follow the amendments to the vellum, we would look in the upper righthand corner of Plaintiff's 8 and we could then see those changes which had been entered on the original vellum?

A. That is correct.

Q. That is correct, sir?

A. That is correct.

Q. And the only thing, then, that Plaintiff's Exhibit 8 does not show in the way of changes in the original vellum in this instance were the phantom marks that you were good enough to apply to the other print, Plaintiff's Exhibit 26?

A. That is correct.

Q. Now, Mr. Chong, you mentioned that Mr. Grindle originally brought to you three pieces of tubing and one or more sketches. Do you remember how many sketches there were? [241]

(Testimony of Raymond A. Chong.)

A. I can only picture one sketch. I can only remember one sketch.

Q. And can you tell the Court just what that sketch portrayed as you now recall it?

A. I can remember a rough cross-sectional view and it could have been a side view of the length—just a rough sketch of a long square bar.

Q. Those two views probably? A. Yes.

Q. Now, I assume from looking at Plaintiff's Exhibit 8 that the sketch given you by Mr. Grindle taught you how to make the drawing that you eventually made which is here reproduced by Plaintiff's Exhibit 8; is that correct?

A. You mean taught me?

Q. Taught you. In other words, it informed you—— A. Yes.

Q. ——as to what he wanted?

A. Yes, that is correct.

Q. And I understand that you didn't find it necessary to have any verbal instructions from Mr. Grindle about what was to be drawn; is that correct?

A. There would be—usually on a job there would be a lot of verbal instructions back and forth.

Q. There would be?

A. There would be. [242]

Q. I am sorry; I misunderstood you. I was under the impression that you felt the sketches were enough. A. No.

Q. But that wouldn't be the case?

A. That would never be the case.

(Testimony of Raymond A. Chong.)

Q. Thank you. Now, the conversation that would ensue in a situation like this we are talking about, would be that Mr. Grindle would hand you whatever material he had and whatever rough sketches he had and then some conversation would revolve around those things so that you could be informed as to the type of drawing that he wanted; is that correct, sir?       A. That is correct.

Mr. Naylor: That is all. Thank you.

The Court: You may step down, Mr. Chong.

Mr. Hohbach: I have a couple of questions I would like to ask him. It will just take a moment.

### Redirect Examination

By Mr. Hohbach:

Q. You spoke about making changes to the drawing. May changes be made to a drawing before it is officially released?

A. We continually do that. That will happen. We can be drawing and make a mistake in our dimensioning and we can be erasing and changing it, if that is what you mean.

Q. So a lot of these phantom lines and dimensions that are shown on this Plaintiff's Exhibit 26, I believe, could [243] have been made before the official release date; is that correct?

A. It could have been, yes.

Q. They also could have been after the official release, isn't that correct?

A. If the changes is to the extent where it affects



(Testimony of Raymond A. Chong.)

the part, then they would be recorded—that is, after the approval.

Q. After it is officially released, then you put the changes in the upper righthand corner; is that correct?      A. That is correct.

Q. But before it is officially released, why, you could make changes in the drawing without recording it in a chronological sequence of events; is that correct?      A. That is correct.

Mr. Hohbach: That is all.

Mr. Naylor: Nothing further.

The Court: We will take the afternoon recess at this time.

(Recess.)

Mr. Naylor: If the Court please, I would like the record to show that Defendant's Exhibit B for identification is now returned to the clerk. We have a copy. May it now be received as Defendant's Exhibit B?

The Court: So ordered. [244]

The Clerk: Defendant's Exhibit B in evidence.

(Whereupon, photostat referred to was received in evidence and marked Defendant's Exhibit B.)

HAROLD SCHMIDT

called as a witness on behalf of the plaintiff; sworn.

The Clerk: Please state your name and occupation for the record.

A. My name is Harold Schmidt; flight engineer for Pan American World Airways.

Direct Examination

By Mr. Hohbach:

Q. How long have you been in the position of flight engineer? A. Since 1940.

Q. With Pan American?

A. That is correct.

Q. Will you give us a brief review of your technical background?

A. Well, I have an aeronautical engineering degree in 1938 and joined Pan American in '38 as apprentice engineer—junior engineer; joined, or was promoted to flight engineer approximately '44 and became assistant chief flight engineer, technical, which lasted until about 1952, and at that time I went back to regular flying.

Q. Do you know Mr. Grindle?

A. I do. [245]

Q. How long have you known him?

A. Well, I can't say in years, but I can place it in time. It was about six months prior to the time that we got the Connies, which I think was around '45.

Q. Are you familiar with the dipsticks used by Pan American? A. I am.

(Testimony of Harold Schmidt.)

Q. Did Mr. Grindle call you in to witness a destruction test on a dipstick? A. Yes.

Q. Did you have an opportunity to observe the dipstick that was tested?

A. Yes, I handled it quite a bit of the time.

Q. Would you describe this dipstick to us as you remember it?

A. Well, it was plastic with a square cross-sectional shape, with a couple of tubes in opposite diagonal corners, round tubes. It had a wooden filler which had the calibration paper wrapped around it, and had sealed ends of plates.

Q. Would you describe the calibrations in more detail?

A. The calibrations were placed on paper, the calibrations having lateral lines which have the—every so often they have the number of gallons which are in numbers, and also there is a distinction at the top of the stick that shows as to which tank the proper calibration is associated.

Q. How were the ends constructed? [246]

A. The ends were a piece of plate, plastic plate, approximately a sixteenth of an inch in thickness. They were cemented or glued in and they were cut out to fit into the cross-section of the square exterior tube, and they also had the corners cut out to allow the round plastic tubes to protrude—or, actually, “protrude” isn’t the word. They came out flush even with the end.

Q. Did you participate in the test?

A. I did.

Q. Would you describe this test to us?

(Testimony of Harold Schmidt.)

A. Well, we were——

Q. You said “we.” Now, who was present at the test?

A. Gene and I. We were —we met in the hangar, near the west side of the hangar on the floor—main floor, and about the central portion where the central entrance comes in. And the test comprised of two different parts. One was throwing it from a balcony. The balcony approximated or was a little in excess of the normal height of a wing.

Q. How high was that?

A. Oh, I would say it is at the point where we threw the stick from was probably about 20 feet, 18 feet. And the other part of the test, we threw the stick from the balcony onto the concrete deck trying to simulate dropping the stick, either intentionally or otherwise from the wings onto the ramps. The other part of the test involved throwing it against the [247] engine stand to see what abuse we could give it by introducing concentrated side loads on the thing.

Q. Did you throw the stick at any time yourself?

A. Yes, I did.

Q. Did the dipstick withstand the test?

A. No. It didn't.

Q. What happened to the dipstick?

A. The end—actually it withstood the test quite well, but we induced failure on one of the times that we threw it from the balcony. We threw it two ways: once in order to allow it to land lengthwise on the paving and the other to try to get it to bounce on the end as a lance would be thrown. At

(Testimony of Harold Schmidt.)

that time, why, we introduced a crack in the lower end of the dipstick. That extended roughly three quarters of an inch or an inch from the bottom diagonally up one of the flat faces of the external extrusion. It also—the impact caused the end of the little plate that was cemented in to conk out, say to roughly a five or ten degree angle.

Q. Did you ever test to destruction a dipstick in which the ends were not sealed?

A. No, I haven't. I was a pretty busy boy at that time and I wouldn't have been interested in a dipstick that didn't have sealed ends.

Q. I show you Plaintiff's Exhibit 9. Does this resemble the dipstick which you and Mr. Grindle tested? [248] A. Yes, it does.

Q. Does it differ from that in any way that you can recall?

A. The dipstick that we had did not have the blue ends on it; they used a different type of seal on it.

Q. Does this dipstick have an end plane in it?

A. Yes, it does. There is a section scratched away and you can see it.

Q. You distinctly remember an end plate in the sample which you tested?

A. Well, because we were able to look in and see the wood filler after it was broken loose by the force of the test.

Q. Could you tell how the wood filler was constructed after it had been broken open?

(Testimony of Harold Schmidt.)

A. You could see the end grain of it. The end grain was covered with a sealing material, yes.

Q. Do you specifically remember the sample you tested having only two tubes?

A. That's all I can recall that were involved.

Q. Can you fix an approximate date as to when this test took place?

A. It was several months after Gene had been hired by the company. He was a Lockheed representative before that time.

Q. Do you remember when Mr. Grindle was hired by the [249] company?

A. No, I would rather not try to specify the date; I think the records are available to show that.

Q. Was anything done about the ends after the dipstick failed in this test?

A. Yes, they were beefed up. The failure was induced from the wood tube or the wooden filler, the inertia of it carrying on from the external extrusion and it is a typical shear failure where the bonding and the end plate and the external square extrusion had to be sheared in order to allow the shift of the stick—of the filler stick.

Q. At the time did Mr. Grindle tell you what he was going to do to beef up the ends?

A. He didn't tell me right at the time. However, we discussed the fact that it was a shear failure and had to be strengthened at that end because the sticks would get considerable abuse in that manner so that the end plate would probably have to be beefed up in some manner.



(Testimony of Harold Schmidt.)

Q. Do you know what Mr. Grindle suggested for beefing up the ends?

A. Well, the final result, just the increased thickness of the plate which gave additional shear strength there.

Q. What was the use of the block? I mean to say, if you increased the thickness of the plate?

A. It gives us in direct proportion to the increased [250] area of the thickness of the side of the block, it increases the shear strength directly proportionally.

Q. Have you had any experience in plastics?

A. Just minor.

Q. Have you seen plastics used in the aircraft industry? A. Considerably, yes.

Q. Could you give us some examples?

A. Oh, we use it instrument panels, in windows in the cabins, interior trim—there is hardly any place you can look at in an airplane where you do not have plastic in some form or other.

Q. You have examined these plastic constructions at some time or other, is that correct?

A. Yes.

Q. Mr. Grindle suggested a thicker block. How would you make up such a block if you were making it up?

A. Well, if the material were available and I had to do it myself, I would probably cut it out of a thicker piece of material. [251]

Q. How else could you possibly make such a block?

(Testimony of Harold Schmidt.)

A. Well, I could laminate it or I could use a filler material that will solidify into a solid piece in itself.

Q. Do you know of your own knowledge whether it is common practice, if you don't have a material of the required size, to build up a block from laminations from material that is of less thickness?

A. We do it all the time. I have a mallet at home that I made up while I was an apprentice engineer that is still in use. It is made up of laminations of eighth inch plastic.

Q. Would any one of these blocks that you suggested—a solid block, a laminated block or just cement plugged in the ends—serve the same function in the dipstick?

A. Provided they were impacted and homogeneous I think they would have, yes.

Q. Is there a possibility that if you used laminations they might not be homogeneous or impacted?

A. The problem of lamination is always in securing a proper seal.

Q. So you might encounter additional problems if you used a laminated piece instead of a solid block; is that correct?

A. My mallet at home is coming apart now; I have got it wrapped with rubber tape to hold it together.

Mr. Naylor: I didn't hear that last.

(Last answer read by Reporter.) [252]

(Testimony of Harold Schmidt.)

Mr. Hohbach: That concludes the direct of this witness.

Cross-Examination

By Mr. Naylor:

Q. Mr. Schmidt, I take it from what you said that you have had no technical training in plastic materials; is that correct? A. That is correct.

Q. May I ask you also if you have had any technical training or educational background in the chemistry of plastics? A. Moderate, yes.

Q. In what way?

A. Chemistry—the original chemistry courses we took in the University of Minnesota.

Q. Since that time have you taken any courses in the chemistry of plastics?

A. I haven't taken any courses, no, sir.

Q. Now you stated in direct examination, as I understood it, that it would be a very simple matter to beef up, as you put it, the end of these dipsticks, by cutting a piece or a plug out of thicker material; is that correct?

A. That is the only conceivable way, is to increase the shear strength in that area, because that was the type of failure that occurred.

Q. And assuming that you could find a thicker piece that could be cut that was satisfactory, you would still have the problem of finding a suitable cement or adhesive, would you [253] not?

A. I think the same thing would be—I don't think I would have any trouble in finding it, no.

(Testimony of Harold Schmidt.)

Q. You don't think you would have any trouble?  
The answer is that you would not?

A. You asked if I thought I would have any trouble. I say I think I wouldn't have any trouble.

Q. You think you would not have any trouble.  
Now do you know anything about the practices of extrusions in the plastic industry?

A. No, I don't.

Q. Do you know anything about the extrusion of hollow bodies or tubular members?

A. From a layman's standpoint, yes.

Q. Do you know anything about the problems of o.d.—and you follow me when I say o.d.?

A. Yes.

Q. I mean outside diameter.

A. That's right.

Q. The problems of controlling o.d. dimension of an extruded body?

A. That has never been my problem.

Q. And would your answer be the same about the i.d., meaning the internal diameter?

A. It has never been my problem. [254]

Q. And I take it that since it has not been your problem, you have no personal knowledge of the difficulty of the extruders in maintaining these tolerances of extruded bodies; is that correct?

A. No, I have no personal knowledge; just generalities.

Q. Now I understood you to say that you had specific experience with block lamination. What was it that you laminated?

(Testimony of Harold Schmidt.)

A. We took, I think it was, flexiglass at the time, it was common material we had, and we used a solvent for it which we had on hand, and placed a number of the pieces together to make a square block and set them under a hydraulic press and left them there to solidify, and after several days we used the block which we had made to machine or turn out a mallet head.

Q. Was it that mallet head that you said is now held together with tape?

A. That is correct.

Q. And to what do you attribute the necessity for taping it?

A. Because the laminations are beginning to separate because it has received so much abuse as a mallet.

Q. Would you say that that was caused by a failure of the choice of cement?

A. I think so, yes.

Q. Now there would also be the problem of choice of cement [255] and the materials in making a lamination for the end sealing of a dipstick, would there not?      A. Yes.

Mr. Naylor: That is all.

Mr. Hohbach: That is all.

Your Honor, that concludes the testimony from those three witnesses, but I understand that Mr. Naylor also has a witness here in court he would like to get on this afternoon.

Mr. Naylor: I do, your Honor, and Counsel has been very kind to suggest, in response to my ad-

vising him that this gentleman is not connected with either party to this case, and his employment requires him to leave for Los Angeles Monday morning—he deferred one trip already on account of this trial. He will be a very short witness.

The Court: I have no objection.

Mr. Naylor: Mr. Rollins.

VERNON C. ROLLINS

called as a witness by the defendant, out of order, sworn.

The Clerk: Please state your name and occupation for the record.

A. Yes. My name is Vernon C. Rollins. I work for the Archer-Daniels-Midland Company.

Direct Examination

By Mr. Naylor:

Q. Mr. Rollins, would you be good enough to state your educational background, sir? [256]

A. Yes, sir. I am a graduate of the University of Southern California with a degree in architecture with a minor in chemistry. I was employed approximately nine years with Monsanto Chemical Company in a plastics capacity. I graduated from their school at Springfield, Massachusetts, incidentally.

Q. Springfield, Massachusetts?

A. That's right, sir.

Q. And when did you attend their school at Springfield, Massachusetts?

A. In 1945, sir; from August, 1945, until December of that year.



(Testimony of Vernon C. Rollins.)

Q. And were you then employed by them in plastics specifically? A. I was, sir.

Q. And for what period of time did you remain with Monsanto?

A. I was with Monsanto until March of 1950.

Q. And did you then accept employment with Archer-Daniels-Midland?

A. I did, sir, in their chemical products division.

Q. And you are now so employed?

A. I am.

Q. May I ask if you are testifying here under subpoena? A. I am, sir.

Q. Thank you. In your experience, Mr. Rollins, did you come into contact with the problems of extrusion of hollow [257] plastics bodies?

A. Yes, sir.

Q. And was that in the regular line of your work at Monsanto?

A. From a technical capacity, yes, sir. I was primarily a salesman, but salesmen had to become technicians.

Q. You were a technician-salesman, actually, weren't you? A. That's right.

Q. I would like to ask if you are acquainted with Mr. C. Martin Welch, the defendant in this action?

A. Yes, sir.

Q. Can you state for what period of time you have had an acquaintance with him?

A. I have known Mr. Welch for approximately ten years.

(Testimony of Vernon C. Rollins.)

Q. Did Mr. Welch ever come to you in a customer relationship with a specific problem that he had in plastics?      A. Yes, sir.

Q. Would you state approximately when this occurred?

A. The nearest to my recollection, it would be 1948.

Q. And what part of 1948 would that have been?

A. I should say about the middle of 1948—the first part to middle of 1948.

Q. Did Mr. Welch identify to you, Mr. Rollins, the subject matter with which he was concerned?

A. He did.

Q. And what was it, please? [258]

A. Mr. Welch came to me with a problem of sealing the ends of a—I believe you have called it a dipstick, in which the problem of an integral and homogeneous sealing of the ends of this dipstick in order to prevent, I believe it was, gasoline from permeating into the interior portion of this particular stick. He showed me an extrusion that he had, and his particular problem was to give a very tight seal on either end of this square tube, I believe it was.

Q. I will show you at this time, Mr. Rollins, an assembly for an outer tube, inner tubes and a spacer member, and will ask if that corresponds approximately to the dipstick assembly that Mr. Welch showed you?

A. Yes, I believe that's—

Q. Is that a fair example of it, would you say?

(Testimony of Vernon C. Rollins.)

A. I would say it is, sir.

Mr. Naylor: May we offer that, your Honor, as Defendant's next in order?

The Court: So ordered.

The Clerk: Defendant's Exhibit D in evidence.

(Dipstick assembly marked Defendant's Exhibit D in evidence.)

Q. (By Mr. Naylor): Did you undertake, as a result of this request by Mr. Welch, to offer any suggestions drawing on your experience for the solution of this problem?

A. I did, sir. [259]

Q. Would you mind telling the Court what was your first suggestion?

A. Yes. When Mr. Welch came to me he showed me this particular problem that he had, and since Monsanto Chemical Company was a large chemical group which had several divisions, in one of which were plasticisers, we were very interested in the possibility of assisting him in using possible plasticiser plastics, and perhaps even a solvent addition to a given thermoplastic material in order to actually form this particular product in the end; in other words, to actually pour this material in as if it were a rather heavy viscous liquid so that it would completely seal the end of the tube, and to that end we were trying to assist Mr. Welch in that particular category.

Q. Did you come forth with a specific suggestion to Mr. Welch in that regard?

(Testimony of Vernon C. Rollins.)

A. Yes; we tried several things, one of which we were in hopes that we possibly could take and make up a plasticised material, which is somewhat familiarly known to the trade as a goop; in other words, a very viscous——

Q. How do you spell that, Mr. Rollins?

A. G-o-o-p. It is more or less a colloquialism, your Honor. But at any rate, we were hoping to make up a type of goop in which we would use plasticisers and solvents in order to make this material be able to be poured into the ends of the [260] tube and subsequently the material would harden and form a tight seal.

Q. Now, you communicated that suggestion, I presume, to Mr. Welch?      A. I did.

Q. And did Mr. Welch report to you whether or not that particular suggestion had been followed?

A. Yes; he tried to use the various materials that we offered in this particular quest of the case.

Q. And what was the nature of the report that you received?

A. Well, they were not satisfactory, sir.

Q. Could you tell us why, as you understood it?

A. Well, yes; as far as I can understand, in pouring this particular material into the actual end case, the end part of the tube, because of the exudation of plasticiser and solvent, it would cause distortion at the ends of the tube, and we found that we could not pot or pour this goop in here and make a satisfactory seal.

I would like to also add to this extent: That about

(Testimony of Vernon C. Rollins.)

this time we further discovered a material which is a cellulose acetate butyrate jell lacquer produced by the Tennessee Eastman Corporation. We hoped that this lacquer might possibly have a happier blend of solvents and plasticisers in order to give it a suitable jell-like structure without causing deformation at the ends of the tubes themselves. [261]

Q. This deformation of the ends of the tube, was that explained to you as a serious problem in any respect?      A. Yes.

Q. Why?

A. Because it seemed to impair the accuracy of the stick, as far as I was able to understand.

Q. In other words, there was physical distortion, was there not?      A. Correct.

Q. Now, Mr. Rollins, you mentioned a moment ago that in this second quest you were hoping that you would arrive at a happy blend. Would you mind explaining that expression to the Court?

A. Yes. We felt that since the Tennessee Eastman Corporation had done so much with cellulose acetate butyrate and cellulose acetate molding compositions, and their flat sheets, that perhaps this jell lacquer would be a more satisfactory material and might not cause the trouble of distortion at the ends.

But this material was unsatisfactory.

Q. And would you mind stating why, as you understand it?

A. Yes. Well, exactly the same situation occurred. What seems to be the phenomena of this

(Testimony of Vernon C. Rollins.)

particular jell lacquer is that it is a very satisfactory material if it can be [262] placed in rather thin membranes so that the actual exudation of plasticiser and solvent fumes are of such nature that they can escape readily.

But in this particular case you have a rather closely defined wall section, and as I have recollected this particular pouring or the thickness of this end plug, it was rather deep, and so much of volatile material is trapped within this narrow confined area that it had no other place to go but towards the sides of the tube, and, as a result, would cause distortion, acting as a solvent on it.

Q. That was the second suggestion, as I understand it?      A. That is correct.

Q. Do you have any further suggestion to Mr. Welch?

A. No, sir; that is about the end of my—that is the end of the suggestions that I was able to offer to Mr. Welch.

Q. Beyond the suggestions that you gave Mr. Welch, did you extend him any aid or assistance in trying to find other materials that might lick this problem?

A. Yes; I suggested that if he would check with the Wilson & George Meyer & Company, who are the western representatives for the Tennessee Eastman Corporation, and that since the tubes themselves were butyrate in nature and since this particular company produced cellulose acetate butyrate for the extrusion, why, it was rather desirable



(Testimony of Vernon C. Rollins.)

that he check with them on the possibility of using sheet materials for [263] the ends of the tubes.

Q. And was it contemplated that one thickness of material or a plurality of thicknesses of material would be used?

A. I would say a plurality, sir.

Q. Now, once the decision was arrived at, or once the idea of lamination—I presume you mean lamination, do you not? A. Yes.

Q. —was arrived at, there remained, did there not, the problem of finding a compatible cement? A. That is true.

Q. With which to build that lamination; is that correct? A. That would be correct, sir.

Q. Now, did you have anything further to do with Mr. Welch's attempt to solve this problem?

A. I did not, sir.

Q. You stopped at that point? A. I did.

Q. And I neglected to ask you one question: Did you actually obtain from Wilson & George Meyer samples of the butyrate material in sheet form?

A. Not in sheet form; no, sir.

Q. Not in sheet? A. No.

Q. In any form?

A. I did. I obtained some jell lacquer from them on the [264] original work. In other words, when we were going to pour this material into the ends, I obtained those samples, yes, sir.

Q. Now, in the extrusion of hollow plastic bodies, has it come to your attention that the extruders have any problem in the matter of control of the

(Testimony of Vernon C. Rollins.)

o.d. and the i.d., meaning outside diameter and inside diameter of the hollow body?

A. Well, to take that up separately, the matter of outside diameter could be controlled rather accurately in extrusion.

Q. And how would one go about that?

A. After the material emerges from the orifice of the extruder itself, they can use an after—they call it an after forming die, and the material itself will progress from the end of the extruder and it goes through an after forming die, which is usually heated, so that this rather warm material can be re-sized, because there are definite limitations on plastic materials. They do have tolerances that have to be, you might say, fought rather rigidly in order to hold them as nearly right as possible.

Now I speak of from the outside of the tube, or the o.d. dimension that you mentioned. However, on the inside, to the best of my knowledge, there is no method of controlling that as accurately as it might be wished.

Q. And do you have any knowledge gained from your experience as to whether there is a variation in the i.d.—inside [265] diameter—of material such as is shown in Defendant's Exhibit D?

A. May I see that tube, sir?

Q. Yes, sir.

A. Yes. I would like to point out to the Court that these two critical diameters in the center are very, very difficult to hold. They are—in the actual—in the extruder's end of the world they are some-

(Testimony of Vernon C. Rollins.)

what of a nightmare to hold, particularly when fairly rigid tolerances are desired, and, as a matter of fact, the extruders fight that constantly and, to the best of my knowledge, they have never been able to control these diameters.

If this were a circular tube, of course, they would have the same difficulties.

Q. And your reference to circular tubes, would that be applicable to the small tubes that are contained within defendant's Exhibit D?

A. Yes.

Q. Now, Mr. Rollins, do you have any knowledge as to the order of tolerance that is encountered by extruders because of those reasons?

A. I would say that if you would be able to hold the inside diameter of a tube to from 15 to 20 thousandths, it would be——

Q. Considered all right? [266]

A. Considered extremely good.

Q. Now, upon the background of that testimony, I would like to ask you this question: If one were considering the production of a completed dipstick working on the partial assembly exhibited by Defendant's Exhibit D, would you say that the problem of sealing the ends could be met and solved by using a solid plug on each of the two ends?

A. Counsel, may I ask in "a solid plug," are you referring to a molded plug such as might be molded from an injection molding machine?

Q. Yes, sir.

(Testimony of Vernon C. Rollins.)

A. Then you would have a very difficult job, because——

Q. Would you mind explaining why?

A. Yes; I will be very happy to. In both cases you have dimensional tolerances to overcome, particularly when this area is critical, and I assume that it is, that when a plug would be molded to this particular size—and let us say that they ran through several sizes to try to take an approximately closely dimensioned plug—that batch to batch of the extrusions as they receive them from the extruder would vary enough so that these plugs would never be very tight; there would be a tolerance.

Q. Now, may I ask you, would it be a matter of trial and error in fitting such a plug into that assembly?

A. Yes, sir. [267]

Q. And in order to accommodate the plug, would there be perhaps a necessity in some instances to rework the plug?

A. Yes; that would certainly be necessary.

Q. And I assume that, conversely, you would discard undersized plugs?

A. That is true.

Q. Is that a method that would lend itself to, well, let us say, commercial production of a structure such as we are discussing here by way of Defendant's Exhibit D?

A. No, sir; I would say that it wouldn't be, and, as a matter of fact, you would probably have to make a number of molds, or within a given mold you would have to make a number of sizes so that you could actually fit the commercial tolerances

(Testimony of Vernon C. Rollins.)

that you would find in the tubing delivered to you from the extruder.

Q. Now, I would like to ask you one final question. If it were decided that the ends of an assembly such as is partially exhibited by Defendant's Exhibit D, should be sealed off by a laminated type of plug, would there then be a problem with the variation of the tolerances of the internal diameter of the outer tube and the o.d. or outside diameter of the inner tubes?

A. Yes. If I may go back to that question rather thoroughly, Counsel, let us assume, for instance, that in starting a basic lamination that would go into there, you [268] could cut a series of flat laminations which would basically fit this structure—but, of course, in so doing, what happens is the type of cement that you would use would have to have such body so as to actually give the material homogeneity in not only between the layers of the laminate and the sidewalls of the tube itself.

Am I answering your question?

Q. Yes. In other words, it isn't just a problem of inserting a series——

A. No, no.

Q. ——or discs cut to the desired cross-section; is that what you are saying?

A. Yes; that is just exactly it.

Q. The problem still remains of finding a suitable, compatible cement?

A. That's right.

Q. Or adhesive; is that correct?

A. That's right.

Q. Now a final question: Would there be a tend-

(Testimony of Vernon C. Rollins.)

ency for the succeeding laminate members in that type of closure to adjust their dimensions and proportions to variations in the i.d. of the outer tube and the o.d. of the smaller tube as you progressively built up?

A. Yes, providing a suitable cement were used.

Mr. Naylor: That is all, your Honor. [269]

### Cross-Examination

By Mr. Hohbach:

Q. Did Mr. Welch ever show you any drawings?

A. No, sir; I don't recall seeing a drawing on this particular project at all. This was strictly a case in point, Counsel.

Q. He actually brought you some dipsticks, did he? Did he just bring you this one dipstick?

A. Yes, I saw one; that's right.

Q. Did he ever show you any completed dipsticks?

A. I do not recall seeing a completed dipstick, sir.

Q. Did Mr. Welch ever speak to you about putting a plug in the end of the dipsticks?

A. No, sir; he did not, Counsel, because, in other words, my phase of the thing was strictly on jell lacquers and the possibility of making a plasticiser-solvent combination, which would make the material suitable.

You see, what we had hoped to do, Counsel—perhaps I am not being very clear, and I want to make



(Testimony of Vernon C. Rollins.)

it very clear to the Court, that what we had hoped to do originally was to actually take a plasticiser and the granules of materials themselves plus solvent, and make a mixture of these materials in order to form a very viscous type of—it is known now in the trade as potting compound.

Q. Isn't that a very general practice?

A. It wasn't then, although the cellulose acetate jell [270] lacquers were used for that type of job in very thin membranes.

Q. Isn't it a general practice that when you make up a cement you take part of the plastic and dissolve it in solvent to the desired consistency?

A. Well, generally speaking, you have to tailor a cement very carefully to a job that you are after. There are a number of commercial cements, but they have their limitations. To get desirable characteristics, you have to——

Q. You say you have to tailor it. What do you mean by that?

A. Probably the best way I can give you an analogy on that is to actually make several trial and error examinations of various types of solvents in order to get a material which will give you the best type of possible bond with the least amount of deformation.

Q. Isn't that information readily available in practically any textbook or magazine?

A. In wide generalities, yes, sir.

Q. Then the main problem is just selecting a solvent; then you take a quantity of this plastic you

(Testimony of Vernon C. Rollins.)

are interested in cementing together, dissolve it in the solvent to the desired consistency and use that; is that correct?

A. That is correct, with the one exception: That you certainly don't hit it usually, unless you are an awfully lot better chemist than many of our learned doctors, you don't hit that right off the bat; it takes a lot of [271] experimentation.

Q. Couldn't an ordinary mechanic working in a plastic shop make up a desired cement?

A. Surely, sir; he could, if he kept at it long enough.

Q. Well, in general, say the mechanic was experienced, wouldn't he, after he had been used to making cements, wouldn't it be pretty easy for him to arrive at the right solution with a very little effort?

A. I see the point you are driving at. Yes, with a starting approach—with a reasonably good starting approach, after probably several trial and error approaches, he would probably come out with a very satisfactory material. But I don't think he would hit it right off the bat. He would be awfully good if he did, or awfully lucky.

Q. Did Mr. Welch tell you at any time that the dimensions of these parts were critical?

A. Yes; he mentioned that they were of a critical nature.

Q. Did you know what he was going to use these materials for?

A. He was going to seal the ends of the tubes, sir.

(Testimony of Vernon C. Rollins.)

Q. Do you know that he actually had a fluid—wanted a fluid column to come up the small round tubes?

A. Yes, sir; I appreciate that from merely looking at it.

Q. Do you think it is critical what the inner diameter of [272] that tube is?

A. I would say probably the inner diameter of the square tube, if you are referring to the square tube, is very critical, yes.

Q. Let's start with the inner diameter of these round tubes.

A. The inner diameter of the round tube? I can't see any particular critical nature there. The outer diameter would be perhaps a little more critical.

Q. The only thing that is important is that it will pass a column of fluid; is that correct?

A. I would say so. The outer square portion, Counsel, is the very critical dimension and one which would give people no end of trouble unless it was correctly done.

Q. But Mr. Welch had no trouble at that time and his company was producing a suitable plastic extrusion at the time he first started making these dipsticks; is that correct?

A. I couldn't answer that question, sir; I wouldn't know.

Q. You stated it was rather easy to control the outside dimensions of the plastic extrusion?

A. That is correct, sir.

Q. Then you can safely assume that in 1948 that

(Testimony of Vernon C. Rollins.)

there was no problem at that time in the outside dimensions of the square extrusions and the round tubes?

A. On the outside dimensions of the square tube and the [273] outside dimensions of the small tube; that is correct. The inside dimensions are the point I would bring out most clearly where the difficulty arises.

Q. Do you know why Mr. Welch never considered using a block for sealing the ends of the dipstick?

A. No, sir; I imagine he had his good reasons; he felt that he probably couldn't hold dimensional tolerances.

Q. Did you ever suggest the use of a block to him?

A. I did not, sir. Mr. Welch is familiar with the molding techniques, I am sure, enough to realize the difficulties encountered. Molds are very expensive, Counsel, and——

Q. All right; let's go into that. How would you make a block, say, of 3/16ths inch thickness?

A. A block to actually seal the ends of that tube, sir?

Q. No; let's just say any block. Say it is an inch in diameter and 3/16ths of an inch in thickness.

A. Well, to begin with, the material is made from tool seal and in a die-making shop. Actually the die cavities themselves are either hobbled—that is a tremendous pressure that is put onto the seal when it is in an annealed condition, and these die

(Testimony of Vernon C. Rollins.)

cavities are formed under this terrific hobbing pressure. Many people in the plastics industry are familiar with that, but it is a very hardened hob which is actually forced under tremendous pressure into the die block itself. [274]

The second method probably used the greatest in the plastic industry is the fact that the dies themselves are machined out in halves, sir, and these particular blocks must match up exactly right so that when the die block is closed and the injection machine actually melts the granules of plastic material, and it is fed under hydraulic pressure into this particular die block—it is what is known as a sprue and a series of runners—and this is just merely a way to get the material into the actual section itself; it is under tremendous pressure.

Q. And you would only go to this expense if you were using a great quantity of that shape of plastic; is that correct?

A. That's right; any multiplicity of those blocks would run a die cost up to perhaps five to ten thousand dollars.

Q. How else could you make a block in that manner? A. Machine it out.

Q. You could also build it out of lamination; is that correct? You could make a cheap die and stamp it out of, say, thinner material and build it up to the desired size?

A. Let me draw a point there on lamination, if you don't mind me giving you a point, something that the Court should consider. Let us assume, for

(Testimony of Vernon C. Rollins.)

sake of argument, that you can take a series of laminates together under hydraulic pressure—heat and pressure will actually unite these materials. I am sure the Court is acquainted with that. [275]

But as these die cut pieces are placed under heat and pressure there is plastic deformation; in other words, the material would tend to exude right out, because of its thermoplastic nature it has a tendency to flow slightly, so that unless the blocks themselves were held into a very tight orifice, somewhat like a die—and not a cheap one either—why this heat and pressure would cause deformation on that plug and it wouldn't fit anything, not alone that particular plug.

I hope I am making that point clear.

Q. Say if you did want to make a plug—you pointed out that when you first were using this cement that you had trouble with deformation at the end and sort of pulled out the end because of the evaporation of the solvent in the cement, is that correct?

A. Yes; that would be in the case of a jell lacquer or something that you would pour.

Q. What if you made a block that just loosely fit into there and filled it with cement? Do you think that would work?

A. I would not feel very—I wouldn't feel very safe in offering it to Pan American or any other airline.

Q. Why not?

A. Well, because I would feel that a block that



(Testimony of Vernon C. Rollins.)

would loosely fit that particular orifice and it were not a very close fit would have a tendency to pull out. It wouldn't [276] be able to stand the tests, I believe, that were mentioned earlier.

Q. You stated you could fill the whole end with cement, did you not?

A. With a jell lacquer. Now a jell lacquer becomes an integral plastic, Counsel. In other words, all a jell lacquer is is merely a plasticised thermoplastic material that is in a viscous nature, yet pourable.

Q. Dissolved in a solvent?

A. Dissolved in a solvent that makes it pourable, and it would go in and fit this particular orifice very nicely.

Q. Well, assume you used that material and use a block which had been roughly fit in there, would that work?

A. That is a very difficult question to answer.

Q. Isn't it going to——

A. It possibly could work, but it would seem to me here if we had this jell lacquer before that was giving the trouble from exudation of plasticiser and causing deformation, it would seem to me that we are getting right back to the same situation again.

Q. Except that you have a much smaller quantity of this solvent which is evaporating and you wouldn't have the amount of solvent evaporating out——

A. Yes.

Q. And it wouldn't draw in and stick as much?

A. That could possibly be true. [277]

(Testimony of Vernon C. Rollins.)

Q. And you would still form a good bond between the block and the sides of these square extrusions, would you not, because the solvent would have a tendency to dissolve part of the block and part of the outside of this square extrusion; isn't that correct?

A. Depending on if the solvent were right so that it didn't cause deformation.

Mr. Hohbach: That is all. [278]

\* \* \*

### EUGENE L. GRINDLE

the plaintiff herein, recalled for redirect examination.

The Clerk: You are under the same oath as previously.

The Witness: Take that again?

The Clerk: No; you are under the same oath.

### Redirect Examination

By Mr. Hohbach:

Q. Mr. Grindle, you stated on direct examination that you had first discovered that Mr. Welch had patented the dipstick on September 28, 1953; is that correct? A. That is correct.

Q. What did you do immediately after [281] that?

A. The first thing I did is tried to call Mr. Welch on the phone. I believe it took—he wasn't in his office, he was out of town or something and I

(Testimony of Eugene L. Grindle.)

left a message with his secretary to call me back, which he did in a matter of two or three days, and I discussed with Mr. Welch the present number that he had on his stick and asked him how come, and so on, and he rather adamantly stated that it was his invention and he didn't know what I was interested in, what possible claim I had to it.

Q. What did you do after you had contacted Mr. Welch?

A. Right after that, then I was more or less satisfied with what Mr. Welch's attitude was, and I went to our engineering files and collected the file on the dipstick program there and reviewed it.

Q. Did that take a considerable period of time?

A. Oh, I would say it took several days revealing all that correspondence and things that were in the file, and because of the—as a result of that review, I recollected from that that Mr. Welch had increased the price on the dipstick two or three times in the first six months of our association with him, that he possibly would have increased it again, so our next step was to go to our supply department and get the latest price that Mr. Welch was charging Pan American.

Q. Did you ask the supply department to do anything?

A. Not at the time. I just got that for my own information; [282] before asking the supply department to do anything I wanted to review that with our attorney at Pan American.

(Testimony of Eugene L. Grindle.)

Q. Did you take the matter up with the attorney at Pan American?

A. Yes, I did; after I had this price, which was at the time \$12.50 a piece for the dipstick, I took the file up and reviewed it with Mr. Fox, Pan American attorney.

Q. On direct examination, did you state that you had been remiss in not mentioning that there had been a prior drawing of the extrusion?

A. Yes, I believe I made that statement.

Q. What did you mean by that?

A. Well, I considered the completed dipstick drawing as the original drawing. I believe Mr. Welch had reference to the original extrusion drawing, which was not a complete drawing but merely covered the extrusion. So Mr. Welch referred to that particular drawing as the original instead of the first completed drawing. In my opinion the complete drawing was the original drawing of the dipstick.

Q. Was there a copy of the drawing of the extrusion in the file that you had given Mr. Fox?

A. Yes, there was; the original was in there.

Q. Do you have any understanding as to what Mr. Fox did at that time?

A. Well, Mr. Fox and I discussed the entire program and [283] decided that one of the first steps to do would be to get a total survey of Pan-American and the other three—all three divisions, to see how many dipsticks Pan-American had bought and paid more than \$5 for. So we went to the supply

(Testimony of Eugene L. Grindle.)

department and asked them to contact the other divisions and get a complete survey of all the dipsticks that were ordered at a price more than \$5.

Q. About how much time did that take?

A. Oh, I would say that took a couple of months to get the complete survey made.

Q. Do you know whether Mr. Fox at any time talked to Mr. Welch?

A. I believe in the meantime there that Mr. Fox did talk to Mr. Welch. I believe he talked to him altogether on two occasions; I don't know the exact time, but I believe it was within this, oh, one or two months' period that we were waiting for this cost study to be made.

Q. Did Mr. Fox ever turn the file back to you?

A. Yes, he did. He turned part of it back earlier and he kept some of the things that he thought would be pertinent to Pan American's interest of overcharges, and I believe the drawings and things like that that didn't particularly pertain to his interest he returned very shortly.

Q. Do you recall approximately when he returned this file to you? [284]

A. Oh, I believe it was probably a couple of weeks after I had first taken it to him.

Q. That was before you had received information on all the overcharges from the other Pan American division; is that correct? A. Yes.

Q. What did you do after that?

A. Well, you mean after the overcharges were——

(Testimony of Eugene L. Grindle.)

Q. After you received——

A. After the cost survey was made, after I received the file?

Q. After you received the file from Mr. Fox.

A. Well, one of the first things I did was to start compiling a cost study myself to see what they would cost me to manufacture them; and I wrote to Mr. Welch's company and I wrote to other plastics companies and got an estimate from a mill company to run the wooden fillers for me and estimates from a printing company on the scales, and my production manager took the thing and gave me an estimate on the cost of assembly.

Q. Did Pan American make a cost study of that at the same time?

A. Pan American made a cost study at some time later after the cost survey had come in from the other divisions, some time after that. [285]

Q. About how long after September 28, 1953, did this occur?

A. The Pan American cost study?

Q. Cost study; that's right.

A. Well, I would say it was some time near the end of '53 or early '54 that Pan American made their cost study.

Mr. Naylor: Could you fix the time when Mr. Grindle's independent cost survey was made? That is what you are getting at, I assume.

Q. (By Mr. Hohbach): When did you make your cost study, the independent one?

A. Well, very early in October of '54. The first



(Testimony of Eugene L. Grindle.)

things I did on that was to go to our supply department and the plastics catalogues and get a rough estimate of plastic materials and extrusions and so on, and we stocked materials similar to what we were going to use.

Q. In what year did this occur? A. 1953.

Q. Did you state previously that it was 1954?

A. If I did, I was mistaken.

Q. What did you do? You said you went and got supply catalogues.

A. Well, I got a very rough idea of what the extrusions would cost from similar materials that we had in stock and had the prices on.

Q. When did you consider actually taking action against [286] Mr. Welch?

A. Well, as soon as my—or Pan American's attorney advised me that they would not pursue the overcharges against Mr. Welch, which was some time in the late part of '53 or possibly January of '54—when they had completed their investigation and advised me that they would not pursue the overcharges and told me that if I was interested in the patent angle that I could pursue it myself, so it was at that time that I decided to take action against Mr. Welch myself.

Q. At this time had Pan American decided that they were not going to produce the dipsticks themselves? A. Yes.

Q. What did you do after you decided to take action against Mr. Welch?

A. Well, right at that time, in December of 1953,

(Testimony of Eugene L. Grindle.)

I was called over to work on a project in engineering, a special design project which I was engaged in for about three months working night and day and week ends and everything, and I just didn't have any spare time, so it was some time after that project, which I had left in the first of March of '54, before I actually was able to devote any efforts towards this dipstick program.

Q. What was this design project? Are you free to reveal that? [287]

A. Yes. Pan American was engaged in a complete redesign of the cabin interior to incorporate what we call a combination service, where we have a bulkhead in the airplane that is movable through various locations in the airplane so that you can change the ratio of first-class passengers to tourist passengers. The removable bulkhead part of it was a rather tricky design in that it had to take considerable stresses and had to be easily movable, and I was assigned to design that bulkhead.

Q. And so you were very busy then until March of 1954 in designing this bulkhead; is that correct?

A. I was very busy.

Q. What did you do after that?

A. Well, as soon as I had some free time I was called in to discuss another patent matter with my attorneys, and I at that time, in talking to Mr. Flehr, mentioned this dipstick situation and just discussed it in a preliminary fashion at that time.

Q. What occurred after that?

A. Well, shortly after that he referred me to

(Testimony of Eugene L. Grindle.)

you to discuss the thing further. And I came in and discussed it with you, and you asked me to get the file together so you could see it. And I brought the file in to you. You spent some time reviewing that, and one of the first things you asked me to do was to get this release from Pan American. [288]

Q. Then at all times you were proceeding as expeditiously as possible against Mr. Welch; is that correct?

A. I believe I was doing everything I could to pursue the action.

Q. You will recall that the complaint in this action was filed on March 5th of 1955; is that correct?

A. Yes.

Q. What had you done prior to that time to prepare yourself and the Deterget Corporation for entering into the manufacture and sale of dipsticks?

A. Well, I had prior to that time completed a cost study of what it would cost me to make it, and I had worked with my production man to develop simple tooling and jigs and things for manufacturing them. I had built a few samples of dipsticks to be sure what I was doing, and I had discussed this with my financial people in Belmont to see if they would be interested in the dipstick project.

Q. Had you seen your attorneys?

A. And I had seen my attorneys regarding what course of action I should take and could take legally and so on.

Q. You incurred considerable legal expenses by that time?

(Testimony of Eugene L. Grindle.)

A. I sure did. And I had also at that time given the corporation an oral license to manufacture the lipsticks, which I understood was an act of infringement.

Q. Had your counsel advised you that such an oral license [289] was an act of infringement?

A. Yes; they had.

Q. Had you made up your mind at that time that you were going into the manufacture and sale of dipsticks?

A. I had made up my mind considerably prior to that that I was going into the dipstick business.

Q. Did you have any means available to manufacture and sell dipsticks at that time?

A. I had adequate means available, the same means that I have today.

Q. You had these friends that you could have obtained financing from; is that correct?

A. I had been financed by this group before and had adequate finances available.

Q. On direct examination you stated that you could have sold about 3,500 dipsticks per year. How many dipsticks has Pan American purchased since September 28, 1953?

A. Well, I don't know the exact number, but the last survey I made they were buying at the rate of about 600 a year, and with a new airplane coming out in the very near future there would be considerable orders—several hundred for the first order.

Q. Is there any doubt that you could have had

(Testimony of Eugene L. Grindle.)

Pan American's business if you had been manufacturing and selling dipsticks?

A. There is very little doubt that I would get the business. [290]

Q. I am showing the witness, Mr. Grindle, Plaintiff's Exhibit 26. Have you seen this exhibit before?

A. Yes; I have.

Q. Could you explain the sequence of the end constructions that are shown on this drawing?

A. Yes. If your Honor would like to look at it—it is a marked up drawing. Because some of the erasures and things on a drawing do not show through on a print, we had Mr. Chong of Pan American transcribe the markings from the original vellum where you could read them, and that shows that originally on this dipstick, prior to the release date of June 7, 1948, that these ends—both ends of the dipstick were plugged with thin plugs a 32nd of an inch thick and cemented in place.

The Court: Is this exhibit the same exhibit that Mr. Chong testified about?

Mr. Hohbach: Yes, it is.

The Witness: Yes.

The Court: And this was the exhibit where I believe he testified that he had made certain erasures.

Mr. Hohbach: The erasures were on the vellum.

The Court: Were on the vellum; I see.

Mr. Hohbach: They were transferred to here and shown in red on this Plaintiff's Exhibit 26.

(Testimony of Eugene L. Grindle.)

The Court: I think we have seen this [291] before.

Mr. Hohbach: Yes, your Honor, you have, but Mr. Chong did not at that time explain the significance of these markings.

The Court: All right.

Q. (By Mr. Hohbach): The advance copy that was given to Mr. Welch did have the——

A. The advance copy that was given to Mr. Welch called for thin end plugs.

Q. Did the sample dipsticks submitted by Mr. Welch have the thin end plugs in it?

A. Yes, it did. The sample that Mr. Schmidt and I tested to destruction had the thin end plugs in it.

Q. What is the next end construction that is shown on the drawing?

A. You recall, as a result of our destruction tests out there where the end was revealed to be the weakest part of the stick, we called for increasing the thickness of that end block up to 3/16ths of an inch in order to get adequate bonding strength and shear strength in that end plug, and the drawing then as originally released, officially released when it was officially signed and accepted, incorporated a block in each end 3/16ths of an inch thick.

Q. Where is the block shown in the drawing?

A. The block was called this dash-12 block, two required, one on each end, telling how to cement them in place, and the dimensions here, this 3/16ths



(Testimony of Eugene L. Grindle.)

inch dimension shows the [292] thickness of the block.

Q. What is the manner specified for cementing?

A. It calls for AN-C141 cement, which is an Army and Navy specification.

Q. Is the block shown on the bill of material?

A. The block is shown on the bill of material and it calls for the same material that is used in the dipstick plastic, that is, cellulose acetate butyrate.

Q. And that has been deleted by the "A" change, is that correct?

A. Yes. As I testified earlier, Mr. Welch, when he delivered the first dipsticks, did not incorporate the block; instead he filled the ends with cement, and the drawing was changed in order that they could be accepted so that the dash-12 block was deleted by this "A" change and they substituted filling the end with cement the way Mr. Welch did it on the first ones.

Q. Why did you make this change?

A. Only so that the dipsticks delivered by Mr. Welch could be received because prior to that, authorizing that change, the inspection department could not receive them because they were not manufactured in accordance with the drawing.

Q. And that's the way the drawing stands today; it calls for the ends to be filled with cement; is that correct?

A. Yes; there were no further changes made to this drawing.

(Testimony of Eugene L. Grindle.)

Q. When you wrote the letter of June 10th, 1948, in what [293] capacity were you acting?

A. I was acting strictly in the capacity of a Pan American employee.

Q. In that letter—that was a letter in which you——

A. That was a letter that I testified here was solicited by Mr. Welch and which I had asked for and obtained approval from my superiors to write the letter to Mr. Welch granting him permission to sell the dipsticks to other operators.

Q. You weren't acting for your own personal interests at that time, were you? A. I was not.

Q. Were you a party to the agreement in that letter? A. I was not.

Q. Did Mr. Welch at any time discuss with you the construction of the ends of the dipsticks—of his dipsticks?

A. Yes. The first time we discussed the ends naturally was when he delivered the dipsticks on our original purchase order with the ends filled with cement instead of incorporating solid plugs, and at that time Mr. Welch mentioned some difficulty in producing the plugs for the ends, primarily because of tolerances or something in the extrusion.

Q. At what time did this occur?

A. Well, that occurred probably a day or two, or possibly the same day that he had delivered the original, or partial delivery of the original [294] order.

(Testimony of Eugene L. Grindle.)

Q. You were present at the time the first dipsticks were delivered; is that correct?

A. I wasn't present, but I was called in by the receiving inspector.

Q. You didn't actually see Mr. Welch at that time?      A. No, I didn't.

Q. Then Mr. Welch discussed with you at some later time the problem that he was having with the ends?

A. Yes. I believe that I contacted him immediately and asked him why he didn't make the sticks in accordance with the drawings, and at that time I believe he made a trip out there to explain the difficulty he was having.

Q. Did you at any time give him any suggestions as to how he might overcome his difficulties?

A. Well, we had discussed that problem quite thoroughly and I wanted to know why he couldn't make the thing in accordance with the drawing, and he said that it would have required some infinite number of different sized end plugs to accommodate the tube. He said that he thought he could do a better and more practical and cheaper job filling it with cement, and he thought he could control it better than he had on the original order. So Mr. Welch, being in the business, if he could make a dipstick filling it with cement that would be satisfactory, we would have accepted it.

Q. Did you give him any suggestion at the time as to how he [295] could overcome this problem?

A. Well, as far as suggestions other than what

(Testimony of Eugene L. Grindle.)

were called for in the drawing—there was a discussion in his workshop at one time regarding using solid plugs or making them up out of laminated sections in order to displace some of the cement. The quantity of cement that he had to use in the ends was what was causing the shrinkage and distortion of the tubes. That was some time after the original order was filled.

Q. Your original drawings showed the use of end plugs; is that correct?

A. The original drawing as officially released and on which the first purchase order was based called for plugs in the end 3/16ths of an inch thick.

Q. That is Plaintiff's Exhibit 8?

A. Right.

Q. In your opinion, would using end plugs of this type have posed a problem to a workman skilled in the art of plastics?

A. It wouldn't have incurred any problem, but with Mr. Welch's facilities it would have incurred some expense if he had to go out and have die or tooling made up so that he could make these plugs in a production manner.

Q. He could have had them machined, is that correct?

A. He could have had them machined or molded or extruded or sliced or various ways.

Q. How much would it cost to machine plugs of this type? [296]

A. Well, I have machined a considerable number of the plugs now myself or in our shop, and I

(Testimony of Eugene L. Grindle.)

estimate that to machine a solid plug 3/16ths thick would cost about five cents apiece.

Mr. Hohbach: Your Honor, we would like to demonstrate the completion of the ends of the dipstick. It will take but very little time and I would like to demonstrate at this time.

The Court: Very well.

The Witness: There was considerable discussion, your Honor, here, at the last day of this trial in which the problem of sealing the ends of this dipstick were represented as being a very difficult application in plastics and I would like——

Mr. Naylor: May I have your Honor's permission to go in the jury box?

The Court: Yes.

The Witness: I would like to assemble a dipstick here which I consider is assembled in direct accordance with the original drawing, and you will just see how difficult it is.

Q. (By Mr. Hohbach): Will you explain what you have here first before you start working so it will be in the record?

A. Well, first of all, I just made up this little standup for this demonstration here. But we have a sample stick here now that is made up, and this end here has a solid 3/16ths of an inch plug. As you see, it is loose in there. The opposite [297] end here has three thin laminated plugs.

Q. What is inside of the square extrusion? Will you explain that?

A. Well, there is a paper calibration cemented

(Testimony of Eugene L. Grindle.)

to a wooden filler. The wooden filler is cut out to very closely the same shape as the plugs are for the ends and that slide into the square extrusion.

Q. You have two tubes that fit within the square extrusion and the filler; is that correct?

A. Yes; that is exactly in accordance with the drawing, Plaintiff's Exhibit 8.

I would like to mention here as far as tolerances are concerned, that my fingernail is 22 thousandths of an inch thick. It slides in there very easily all around, so that the tolerances as far as the extrusion are concerned, in my estimation, are no trouble at all. That plug could be larger and still go in there; it could be smaller and still do the job of sealing.

Q. Could you explain the difference in diameters between the rounded corner diameter and the diameters of the——

A. Yes; the square extrusion is produced with a diameter cornered radius of about an eighth of an inch—I'm sorry; it is a 16th of an inch radius; and the round tubing that is accommodated in that corner has an external diameter of a quarter of an inch or an eighth inch radius, so that there is [298] no contact actually in the corner. So that has to be deformed slightly in the sealing process in order that the corner will seal. Would you like to look at it?

Q. So it would be impossible to get a perfect fit of the end plug anyway because the round tubes did not fit perfectly into the square extrusion?



(Testimony of Eugene L. Grindle.)

A. That's right. A perfect fit is not necessary at all. There was some discussion here on the last day that it seemed that the man testifying here considered that each plug would have to fit in an extremely tight manner, a press fit—a so-called press fit, which would have been, I grant, extremely costly because you would have to make a plug for each particular piece of tubing.

Q. But actually all you need is a plug that just fits loosely in there; is that correct?

A. That is correct.

Q. And the main purpose of the plug is so you won't need as much cement so that when the solvent evaporates it won't—

A. Yes; the thickness of the plug is what we determined after our destruction tests is required to get enough bonding area in the end to give you the strength required.

Q. Will you explain what you have in the plugs?

A. I would just like to line up that particular end before I seal it. These bottles consist of a cement—there is just a cement in this bottle which is made up of shavings of [299] cellulose acetate butyrate and mixed with a suitable solvent in order to provide a cement of the desired consistency. This bottle here is just a solvent—a recommended solvent for the particular plastic we are dealing with.

Q. What is the solvent?

A. The solvent I am using here is ethylene dichloride.

Q. Was that solvent available in 1948?

(Testimony of Eugene L. Grindle.)

A. That solvent was available and that solvent was the solvent recommended in the plastics handbook at the time for this material.

Q. I hand you a piece of paper that is identified as Plastics Identification Chart 1947. Is ethylene dichloride shown on that chart?

A. Yes, it is. This particular chart is for the purpose of identifying plastics and recommending solvents for the particular plastics, and right up here is cellulose acetate butyrate.

Q. Which is the first one on the list?

A. The first one on the list, the plastic we are dealing with, and ethylene dichloride over here is recommended as a solvent.

Q. The "S" means that it is soluble in ethylene dichloride; is that correct?

A. "S" down here means soluble. Now there are a couple of other materials here that are suitable solvents for this [300] plastic, but ethylene dichloride is something that we stock and we are familiar with at Pan American.

Q. So all you had to do to make a cement, you would have to look to this chart to find a suitable solvent; is that correct?

A. That is correct.

Q. Did you look at this chart yourself in 1948?

A. Yes, I did.

Q. What date does this chart carry?

A. 1947.

Mr. Hohbach: I will offer this in evidence as the plaintiff's next exhibit.

The Witness: Why don't you let me seal this

(Testimony of Eugene L. Grindle.)

one and then you can talk further while that is setting?

The Court: Do you want to offer that in evidence?

Mr. Hohbach: I will offer it in evidence.

The Court: Let it be received.

The Clerk: Plaintiff's Exhibit 27 in evidence.

(Whereupon, Plastics Identification Chart 1947 referred to above was received in evidence and marked Plaintiff's Exhibit No. 27.)

The Witness: Can I go ahead, Al?

Mr. Hohbach: Sure.

The Witness: What I want to do here, your Honor, is get this set up, because it takes about half an hour in the mold [301] before you can actually—this won't stain your table; I just want to dip it in here to the depth——

Q. (By Mr. Hohbach): You are dipping it into the jar of cement; is that correct?

A. That is correct.

Q. To what depth?

A. Just to the depth of those end plugs.

Q. How long will you leave it there?

A. I will leave it there for approximately 15 seconds. The time on this is important only to get the softening of the plastics. Now I just force that into this mold.

Q. The mold is roughly the shape of the outside of the square extrusion; is that correct?

(Testimony of Eugene L. Grindle.)

A. Yes, it is. It is tapered slightly so that you get pressure on all surfaces of the extrusion.

Q. Actually what happens when you dip that into the cement the cement flows up into these spaces, the open spaces, and it also dissolves a portion of the extrusion; is that correct?

A. Yes, it does. It softens all the surfaces of the plastic. The purpose of softening it is to permit it to flow, and when you put pressure on it fill the uneven surfaces, and the cement, the solvent itself, is what does the bonding on the surface of the plastic.

Q. Was all this information relative to forming a good bond between one piece of tenite II and another piece of tenite II [302] available in 1948?

A. Yes, it was; it was in our shop manual.

Q. Tenite II refers to cellulose acetate butyrate; is that correct?

A. That is correct.

Q. That is the trade name for it?

A. That is correct.

Q. I hand you a piece of paper that is entitled, "Process standard of the Douglass Aircraft Company." Here is a copy for your Honor. Now what material is listed as a cement on this process standard?

A. This is a process standard for cementing tenite II to tenite II.

Q. Which is what we are doing here; is that correct?

A. That is right.

Q. And what date does this process standard carry?

A. October 9, 1946.

Q. What cement is listed?

(Testimony of Eugene L. Grindle.)

A. This particular sheet calls for butyl acetate, which is also a solvent recommended on that Plastics Identification Chart.

Q. Which is Plaintiff's Exhibit No. 27; is that correct?      A. That is correct.

Q. Could you go through briefly the procedure they give for cementing tenite II to tenite II? [303]

A. Yes. I would like to point out that they call for using a felt pad. This specification is to cover applications where you are trying to control the depth that you are dipping the material and also it is designed so that you can end up with a clear cementing joint when you get through. A clear joint in this particular application is not necessary.

Q. Could you just go through the procedure they give?

A. Well, in preparation they say to place a piece of half inch thick felt pad in a metal container having a flat bottom; fill the container with butyl acetate up to half the thickness of the felt pad. Then you place the surfaces to be cemented on the felt pad and press slightly. In pressing it the felt immediately absorbs the solvent so that the pad is saturated and now you are just controlling the amount of solvent that you get on the plastic. Then you allow one surface to remain on the pad from 15 to 30 seconds, and the second surface from 30 to 60 seconds. Then you place the assembly in a fixture to get pressure, and use enough pressure to give it complete surface contact.

Q. Is that what you are doing here?

(Testimony of Eugene L. Grindle.)

A. That is exactly what I have done here. And then clamp for 15 to 30 minutes.

Q. Was this information readily available to anyone in the plastics field?

A. I should think it would be. It was in our standard shop [304] manual at the Pan American, and we weren't necessarily experts in the plastics field—although from some of the testimony we heard here I think we probably do have some pretty well qualified experts.

Q. I note that at the bottom of the page it says——

Mr. Naylor: Your Honor, I move that that last go out as a purely voluntary statement.

The Court: It may go out.

Q. (By Mr. Hohbach): I note at the bottom of the sheet it says that this specification is particularly adapted to pin jack assemblies?

A. Yes.

Q. What is a pin jack assembly?

A. Pin jack assemblies are—it is an adaptor with pins in it primarily for electrical use and ear-phones and headsets and things like that where you are interested in a seal around a pin so that no static or anything will develop in it.

Q. That is very similar to the type of construction that we have here?

A. I would consider it very similar, because you are trying to get a seal and a strength bond at the same time.



(Testimony of Eugene L. Grindle.)

Mr. Hohbach: I will offer this in evidence as Plaintiff's Exhibit next in order.

The Court: It will be received. [305]

The Clerk: Plaintiff's Exhibit 28.

(Whereupon, document referred to above was received in evidence and marked Plaintiff's Exhibit No. 28—Douglass Aircraft specification sheet.)

Q. (By Mr. Hohbach): I hand you another document which is entitled, "Lockheed process specification." What title does that bear, Mr. Grindle?

A. It is a process specification entitled, "Cementing of acrylic base plastics."

Q. Are these plastics different from tenite II?

A. Yes, they are. Acrylic plastic is what is known in the trade as plexiglass or lucite. It is a plastic that is a little more brittle than tenite II and its advantage is that it is very clear. It is what is used in aircraft primarily for windows and in applications where you are interested in clear visibility. It is very similar to glass in its clearness.

Q. Are the cementing procedures used for acrylic base plastics very similar to those used for tenite II?

A. The procedures are practically identical. The type of solvent and things you would use may differ depending on the materials that you are using.

Q. You can find out what solvent to use by re-

(Testimony of Eugene L. Grindle.)

Referring to a chart such as Plaintiff's [306] Exhibit 27?

A. No difficulty in finding the proper solvent.

Q. What date does this document bear?

A. This document is dated January 25, 1945.

Q. And I see it is approved by numerous people.

Does that mean that it apparently had wide distribution?

A. The Lockheed and all the manufacturing—aircraft manufacturers' manuals had distribution through the industry to anyone using their airplanes, as well as the Army and Navy, and any aircraft sold to the Army and Navy and specifications for them had to be approved by the Army and Navy.

Q. What solvent is recommended for acrylic base plastic?

A. Well, they recommend methylene dichloride. It is my understanding that methylene dichloride is a misnomer; that ethylene dichloride is the material—is the actual material. It is a common misnomer to call it methylene.

Q. Would you go through the procedure they give for cementing? I believe it is beginning with paragraph 6.

A. Would you like me to read it?

Q. Well, read it or give a brief resume of what is stated.

A. Well, they state that, "The bonding of acrylate-base plastic is accomplished by the softening and intermingling of the two surfaces. The

(Testimony of Eugene L. Grindle.)

cement attacks the surface layer forming a well-defined soft 'cushion,' which, when the two pieces are pressed together, allows the surfaces to intermingle and form a cohesive bond." [307]

They tell how to do that. In soaking, you immerse the surfaces the required time to get the soft cushion, but they put a note in here; they say: "The purpose of the cushion is merely to permit intimate contact of the surfaces. It is the liquid on the surface that effects the bond."

Q. What does it say about assembly?

A. It says: "Since the liquid which is on the cushion evaporates rapidly, the joint shall be assembled as quickly as possible after soaking. If the interval between soaking and assembly is unavoidably long so that the cushion surface crusts over, it shall be brushed with cement before assembly."

Q. There is one other paragraph I would like to go over; that is, "Cementing small cracks." Will you go over the procedure they give there?

A. Well, they recommend to "cement small, clean cracks which show no shattering may be cemented by spreading the edges slightly apart and injecting methylene chloride by hypodermic needle or other suitable means. The solvent shall be applied so that it penetrates the entire length of the crack. As soon as the edges are softened, apply a slight pressure by means of a suitable jig until a firm bond is attained."

I remember at one time discussing with Mr. Welch the use of a hypodermic needle to get the

(Testimony of Eugene L. Grindle.)

solvent into the area [308] where he was having trouble sealing it.

Q. This is very similar to what you are doing here; is that correct? A. That is correct.

Mr. Hohbach: I offer this in evidence as Plaintiff's next in order.

The Court: It will be received.

The Clerk: Plaintiff's Exhibit 29 in evidence.

(Whereupon, Lockheed process specification sheet referred to above was received in evidence and marked Plaintiff's Exhibit No. 29.)

Q. (By Mr. Hohbach): I hand you another document entitled, "Lockheed process specification."

A. This is the same specification, Mr. Hohbach, but I believe it is a revision of the original.

Q. What date does it carry?

A. March 15, 1947.

Q. What cement is listed?

A. They still recommend methylene dichloride.

Q. And then what do they list on paragraph 3.4?

A. I am sorry; the cement they call for is Acrylate Monomer Base spec. AN-C141.

Q. That is the specification that you gave on your drawing, Plaintiff's Exhibit 26?

A. That is correct. That is the specification that was [309] called for in the original drawings given to Mr. Welch.

Q. And apparently this information was taken

(Testimony of Eugene L. Grindle.)

from this sheet of paper, is that correct, and put on that drawing?

A. I wouldn't exactly say it was this sheet of paper, because we had Army and Navy specifications out there and also it could just as well have been that.

Q. But it is the same specification?

A. Same specification.

Q. What does it state if the cement is too thin? What does it tell you to do?

A. It just says if it is too thin to mix some more shavings of the basic plastic until that dissolves and will be thicker; or if it is too thick just put in a little more solvent, until you get the desired consistency.

Q. In what paragraph does it tell you to do that? 4.11——

A. 4.11 says: "If cement becomes too thick, cement may be thinned with methylene chloride."

4.12 says: "If cement is too thin, add clean acrylate-base plastic chips and stir until all chips are completely dissolved."

Q. Then it appears there would be no problem to get a cement of the desired consistency?

A. None at all. It says further here that "the addition of plastic chips does not affect the action of the cement, nor is it sufficient to fill any irregularities in the fit." [310]

Mr. Hohbach: I offer this as plaintiff's next in order.

The Court: Plaintiff's 30.

(Testimony of Eugene L. Grindle.)

The Clerk: Plaintiff's Exhibit No. 30 in evidence.

(Whereupon, Lockheed process specification was received in evidence and marked Plaintiff's Exhibit No. 30.)

Q. (By Mr. Hohbach): Now, would you make some cement from your plastic chips and your ethylene dichloride that you have in the two bottles?

A. It will take some time for this to dissolve.

Q. You aren't ready to seal the ends?

A. Let's wait until after we seal the other end because I don't want to get these two ready before called for.

Q. Are you just using ethylene dichloride or are you using cement?

A. After the end is sealed I will just fill it in with cement to be sure it is sealed.

Q. You don't want to make the cement?

A. I can make some now. It is just a question of pouring the solvent in that.

Q. Will you explain what you are doing at this time?

A. I am just pouring some ethylene dichloride into these shavings of cellulose acetate butyrate.

Q. How long will it take to make that?

A. Well, it depends on how fine the shavings are, but this possibly might take a half an hour or so with what we have [311] there, but you can take solid plastic and it will dissolve, but it takes a little longer.



(Testimony of Eugene L. Grindle.)

Q. When does the time run out on this end? When do you want to seal the next end?

A. Oh, about fifteen minutes yet. You can't leave it in there too long, but you can take it out too soon.

Mr. Hohbach: Your Honor, I have just about concluded my redirect. I was wondering if some time later in the date we could interrupt the testimony of some other individual and seal the other end for you?

The Court: All right.

The Witness: One thing—pardon me. One thing I would like to review here is that I have an end plug that was cut off a stick that was made in this manner; and we discussed earlier, one of the objects of this end plug was to give you a good strength bond to take the stresses that might be placed on it when it was thrown to the floor. I would just like to submit that so you could examine how good a bond this particular method will produce.

Q. (By Mr. Hohbach): Is that a solid end plug or is that a laminated plug?

A. That is a solid end plug.

The Court: Am I using this glass correctly?

A. Put it right in your eye, your Honor; then you will have to focus it. [312]

The Court: I mean, I am looking in the right end?

A. You are looking at the right end; you might have to get it a couple of inches from your eyes.

(Testimony of Eugene L. Grindle.)

Mr. Hohbach: You actually sawed this off the end of this particular dipstick?

A. That is correct; it was actually sawed off the end of this one. I had a limited supply of extrusions so I cut one off—cut it off of this particular one and shortened it up. And then I have samples of the two different plugs that we are talking about here.

Q. You just have those extras in case you lost one?

A. Those are the ones that I made up to get the size and I use them for a die to make my dies for producing in quantities.

Q. How did you make the end plugs? I mean this end plug.

A. That is just made by taking a thick plastic—this particular one is made out of lucite, and I cut it square first to fit inside of the extrusion and then cut the end—the holes in there to accommodate the round tube.

Q. You actually machined these end plugs?

A. These were made by hand just to get the size that we wanted and then a die was made up from this.

Q. And this is a 1/16th inch piece, is that correct?

A. This is 1/16th inch material, and these we made a die for stamping these out of sixteenth inch sheets.

Q. The 1/16th one is stamped and the other one is machined; [313] is that correct?

(Testimony of Eugene L. Grindle.)

A. That is correct.

Mr. Hohbach: I would like to offer these in evidence.

The Court: They will be received.

The Clerk: Plaintiff's Exhibit 31 in evidence.

Mr. Hohbach: I think we ought to identify them separately. I will try and identify them separately.

The Court: May I suggest we take a recess for a few minutes?

(Recess.)

Mr. Hohbach: Your Honor, I would like to offer these in evidence at this time, as I think it is Plaintiff's Exhibits 31-A, B and C. 31-A is the sawed off portion of the dipstick; 31-B is the 3/16ths plugs, and 31-C is the 1/16th inch plug.

(Whereupon, dipstick and plugs were received in evidence and marked, respectively, Plaintiff's Exhibits Nos. 31-A, B and C.)

The Court: Do you have a container for them?

Mr. Hohbach: Yes, we do, your Honor.

Q. Mr. Grindle, would you like to seal the other end of the dipstick at this time?

A. Yes. This has been in the mold long enough now.

Q. What is that wooden plug in your die? It isn't a die, really? [314]

A. No, this is just a simple die made for this demonstration. I had to make a wooden plug in there so that at one end I could accommodate the

(Testimony of Eugene L. Grindle.)

small tubing that is sticking out, just a support when I press it in there.

Now, that end is solid, as far as the strength bond is concerned. This will be shaved off here; this is excess material.

Before going any further now, I would inspect that to make sure that I had a good bond before I went any further. Actually there are little tricks in the production assembly of the stick, but I don't see any need to reveal them here—that would guarantee a good seal every time. I will go ahead with the other end now.

Q. Before you go into that, is this the laminated end or the plug end?

A. This is the solid plug end.

Q. Does that fit rather loosely in the square extrusion?

A. Yes, it does, the same as the other end did. Actually the most difficult point to seal in here is that in the corner behind this round tubing, because the two corners are not the same diameter. You can see a very large gap in this corner here; that is really the only tricky part about the sealing. That is what the die does; the die presses those corners so you could get them into contact.

Q. Is the plug that you have here generally the same [315] dimension as the cross-sectional dimension of the filler?

A. Yes, it is. Actually the filler—the wooden filler has a thick paper cemented around it, but I

(Testimony of Eugene L. Grindle.)

would say that the end plug is about the same size as the finished filler in there.

Q. Is that the way it is called for in the drawing, Plaintiff's Exhibit No. 26? A. Yes, it is.

Q. Will you go ahead with the demonstration?

A. I will again just repeat this.

Q. You dipped it down until it comes up to the filler, is that correct?

A. Just so you get the solvent in far enough to get all the surfaces of the filler wet.

Q. In your opinion, this is a relatively simple cementing procedure, is that correct?

A. I would consider this simple. Compared to some cementing applications that have to be done with plastics, this is extremely simple.

Now, I have to get these (indicating). What we would do with this—let me set this down here on the floor.

Q. Do you want to put it together, because we want to introduce it in evidence? Can you stick it in here?

A. What I wanted to do now is get it down and show the final patches. Just to make sure you get a good seal, I [316] would like to put some cement around the end on this solvent, and then that end is finished, as far as sealing is concerned. May I do that?

The Court: Yes.

Q. (By Mr. Hohbach): Will you explain what you are doing in detail?

A. This is just using now some of the cement.

(Testimony of Eugene L. Grindle.)

Q. Before you were dipping the stick in ethylene dichloride?

A. Just in solvent. Now, perhaps if you wanted an extremely loose fitting plug in this end—and I don't see any particular need for that—you could dip it into a cement like this rather than a solvent, so that it would fill the irregularities up.

Q. You are using a paint brush, are you?

A. I am just using a paint brush.

Q. Going around the edges of the square extrusion; is that it?

A. That's right. As I said before, now, in actual practice before I did this step, it would be inspected with a magnifying glass to make sure there weren't any cavities in there that were not filled. If there were a cavity in there, that was not filled, and even though it was not through to the surface, you would just drill a tiny hole into the cavity and inject some solvent or cement in it to seal [317] it up.

Q. How would you inject the solvent or cement?

A. With a hypodermic needle. If you were using solvent, it would run down there by itself.

Q. You have done about all you can do at this time, is that correct?

A. Just so the stuff doesn't crystallize. I am getting nervous up here.

Q. You mean when it crystallizes, it will become brittle; is that correct?



(Testimony of Eugene L. Grindle.)

A. No, it may flake a little bit. If the stuff dries too fast, it may flake a little bit.

Q. When do you want to make up this bottle of cement?

A. That cement just takes time to dissolve, that's all. It is made right now. It is starting to dissolve already.

Q. How long does it normally take?

A. It depends on how fine shavings you have. A couple of hours would probably dissolve this type of shavings. This is cement here that was made exactly that way.

Now, the other end—if you want to knock off this demonstration—the other end, when it came out of there, I would just do the same thing to it, then it is finished. I would clean this off and paint the end. Actually this will look very nice when it is through. There isn't very much need to paint it.

Q. I hand you Plaintiff's Exhibit 5. You remember you [318] testified about this?

A. Yes, this is the original sample of dipstick incorporating the scale inside of the fluid columns.

Q. This is an example of the first sample, is that correct?      A. Yes.

Q. Is that a difficult job of cementing these laminated sheets together?

A. This is what I would consider an extremely difficult job of cementing plastics. You can see here, your Honor—if you recall, this is made up of a whole series of little tiny strips and every strip has to be sealed on all surfaces throughout the length

(Testimony of Eugene L. Grindle.)

of that tube because you are taking fluid up in there. If there was an air leak or a fluid leak, it wouldn't hold there, and that is an extremely difficult job of cementing plastics. You could never make a thing like that in production.

Q. You sent this stick to see whether or not it would work?           A. Yes, we do.

Q. Each column held fluid, is that correct?

A. The same as we did with the original one that we made.

Mr. Hohbach: I would like to offer this in evidence, your Honor, this sample dipstick which has just been completed.

The Court: Any objection?

Mr. Naylor: No objection, your Honor.

The Court: Let it be received. [319]

The Clerk: Plaintiff's Exhibit 32 in evidence.

(Whereupon, sample dipstick was received in evidence and marked Plaintiff's Exhibit No. 32.)

The Witness: I haven't finished the other end. I could cement it first, if you like.

Mr. Hohbach: Shall we complete the dipstick, or what do you think would be most advisable? We could complete the other end about a half an hour from now. We could interrupt another witness.

The Court: It is immaterial to me.

The Witness: The only thing, if your Honor would care tomorrow some time—it should cure for

(Testimony of Eugene L. Grindle.)

about 12 to 24 hours—to test it to destruction, just to see that it has got a good seal. Then I would complete the other end here.

Mr. Hohbach: I will offer this in evidence as the plaintiff's next in order. The sample dipstick, we will make that 32-A, and then we will make the block with the three bottles 32-B.

The Witness: I would like to say that on one of my visits to Mr. Welch's shop, in his outlining the difficulty he was having in sealing this stick and what prompted me to suggest that he use the hypodermic needle, was that he used to stick an ice pick inside of the little round tubing and distort the tubing away from the wall and take a toothpick and get cement down in that corner, which is the [320] place he was really having difficulty with sealing, and then relieve the ice pick pressure and let the cement squeeze up around that tubing. A very simple mold would have solved that problem very simply.

Mr. Hohbach: Your Honor, I believe that completes the redirect.

I would like to move at this time to amend our complaint to conform to the evidence in accordance with Rule 15(b) of the Federal Rules of Civil Procedure, and in particular we have in mind the evidence relating to Mr. Grindle's immediate intent to manufacture and sell, his making tools and dies in preparation to manufacture and sell, his obtaining money for the corporation to go ahead and manufacture and sell dipsticks, and the fact that he didn't discover the fraud until September 28th of

(Testimony of Eugene L. Grindle.)

1953, and that since that time he has been diligently pursuing his rights against Mr. Welch.

The Court: Do you have any objection to that amendment, Mr. Naylor?

Mr. Naylor: I would like a little better specification as to just where this amendment is to occur, and what it will consist of, and I would like to be heard at that time, your Honor.

The Court: Do you contemplate filing an amendment?

Mr. Hohbach: We do not, your Honor.

The Court: I think that would be more satisfactory. [321] Instead of amending it on its face, I think you should file an amended complaint to incorporate this evidence, and then Mr. Naylor will have an opportunity to take appropriate action as he deems necessary.

Mr. Hohbach: I haven't gone to the trouble at this time of preparing an amendment. Did you mean that we should file it during the proceeding of this action?

The Court: I think so. Could you do that conveniently?

Mr. Hohbach: I can try and do that this evening and have it tomorrow, if possible.

Mr. Naylor: I don't think the amendments are of a nature that would permit us to amend on the face of the complaint.

The Court: That is why I suggested it—that he file an amended complaint.

Mr. Hohbach: We will rest, then, your Honor.

(Testimony of Eugene L. Grindle.)

The Court: All right.

Mr. Naylor: May I have the last statement that counsel made?

(Last statement of counsel read.)

Mr. Naylor: "We will rest." Thank you.

The Court: This examination that you are now about to conduct is without any prejudice to any motion that you may care to make subsequently?

Mr. Naylor: It is, your Honor. Yes, your [322] Honor.

#### Recross-Examination

By Mr. Naylor:

Q. I just have a few questions, Mr. Grindle. You mentioned that you made a suggestion to Mr. Welch while you were in his workshop concerning the end sealing of the dipsticks. Could you fix the time for that?

A. That was some time after he had made his initial delivery—that is, partial delivery on our first order. I had not been in Mr. Welch's home or shop prior to the date that he delivered the first portion of our initial order. That was—I believe he delivered 54 of the first 100. Prior to that time I have not been in Mr. Welch's shop, so it was some time after that.

Q. After the first delivery? A. Right.

Q. Now, this demonstration that you arranged in court this morning, what was the inspiration for that, Mr. Grindle?



(Testimony of Eugene L. Grindle.)

A. Well, Mr. Naylor, the last day in court here there was a gentleman as a witness who testified to the effect that sealing——

Q. You are speaking of Mr. Rollins, aren't you?

A. Mr. Rollins, yes. That the job of sealing the end of this stick was a very difficult application. However, he confined his remarks mostly to a job of sealing it with a cement or a goop, as he called it. Why Mr. Welch and he were pursuing the application of goop to the end of this [323] stick rather than plugs in the end, I don't know, because, as we all see, Mr. Welch ended up after all this work going back to plugs in the end. Mr. Rollins did make some reference to the plug in the end where he also outlined that because of the wide tolerances that have to be dealt with in this extrusion, that a plug would not be practical because you would have to have this infinite variety of sizes of plugs. So the purpose of that demonstration is to show that the tolerances in the extrusion are not a problem if you make proper tooling for it, and, as you see, very simple tooling, so that one standard plug would satisfy the widest range in tolerances that you would get in the extrusion.

Q. May I interrupt you? Who did you talk with in arranging this demonstration beyond Mr. Hohbach and Mr. Swain?

A. On my way home that night I decided to—I thought about this driving back to the Peninsula, and that very evening I called this man that does



(Testimony of Eugene L. Grindle.)

all my production work, Mr. Savage, and told him what I wanted to do, and just outlined it on the telephone, and the next day he had this kit all ready for me.

Q. Mr. Savage prepared this kit?

A. Mr. Savage did, yes.

Q. The demonstration that you have put on, is that intended to be a representation by you—to a satisfactory commercial production? [324]

A. I only built this for a very simple demonstration. I didn't see any need to reveal my production techniques. They would be more positive, faster, better control——

Q. You do regard that as confidential information, do you not, your production methods?

A. Yes. I considered that I might risk revealing this portion of the application in court, but production tooling is something that has nothing to do with the patent question involved here.

Q. This, then, is just a simple demonstration by you as to what you believe is the simplicity of sealing the ends, is that right?

A. Yes, as far as—if that were the only thing available, you could produce a production dipstick in just this manner very cheaply and simply. I believe I have demonstrated that.

Q. That is your opinion? A. Yes, it is.

Q. You have not had any opportunity to test the permanency of the end seal which you have demonstrated?

A. Yes, we have, Mr. Naylor.

(Testimony of Eugene L. Grindle.)

Q. Which you demonstrated to His Honor this morning, have you?           A. Yes, we have.

Q. When?

A. I started following our last day in court here and we [325] built up several of them like this and tested them and are very satisfied that we had a good job.

Q. You mean between the last session of court and this session you tested the permanency of this end seal?           A. Absolutely.

Q. What does permanent mean to you?

A. With the information available to me in plastics, Mr. Naylor, using the solvents recommended and the plastics that we are dealing with here, you don't have to wait for two years to determine the permanency because with this application—and it is well known in the industry—you are not using any foreign materials; you are just getting a cohesive bond of basic materials—it is well known that they are a very permanent and satisfactory seal.

Q. Have you ever heard the word "craze" as applied to a bond of that nature?

A. I believe anyone in the aircraft industry is probably familiar with the word "crazing," for years back.

Q. What does the word "craze" mean to you—as applied to plastics that have been bonded together?

A. Why, there are certain what appear like cracks to the eye, internal separation of things in

(Testimony of Eugene L. Grindle.)

plastics which look like it has been chipped or cracked.

Q. I assume that you have——

A. That is, by the way, not much of a problem with Tenite. [326] Tenite is a much better plastic for that particular problem than acrylate plastics are.

Q. When did you collect the data sheets, Plaintiff's Exhibits 27, 28, 29 and 30?

A. When did I collect them?

Q. Yes. A. Originally?

Q. No, I mean for the purpose of producing them here.

A. The Friday following the last day we were in court here. Actually I had them—one of them in my own personal file and all the others were very accessible to me, and I could have brought numerous additional documents which I didn't think were necessary.

Q. Now, I assume that you have on file at Pan Am the government specification on AN-C-141, have you?

A. We did have. That has been obsoleted for several years now.

Q. You say you did have? A. Yes.

Q. Was the copy destroyed?

A. Yes, we always destroy it when it is superseded by a later revision.

Q. Do you have anything on file at Pan Am to show what you meant by AN-C-141?

(Testimony of Eugene L. Grindle.)

A. I have the latest military specification on the same [327] procedure.

Q. I am speaking of the specification as of 1948 when you made Plaintiff's Exhibit 8.

A. Do we have anything on file?

Q. Yes.

A. No, the actual specification, as I stated, we would delete that as soon as the revision would come out because we would immediately start using the latest revision.

Q. So the answer simply is that you don't have the 1948 specifications?

A. No, but I can get one. There is no problem getting one if you want it.

Q. Can you get one?           A. Surely.

Q. Will you do so?

A. It will take some time. We have to go back to the government file. I will tell you, if you want to know what it says. It is quite well covered in that Lockheed process specification because it is practically the same thing.

Q. Practically the same thing?

A. Yes, it covers the application of the cement. The actual specification AN-C-141 is a specification for making the cement itself and it refers to another Army and Navy document for the use of the cement.

Mr. Naylor: I think that is all, your [328] Honor.

The Court: Anything further?

Mr. Hohbach: We rest, your Honor.

The Court: You may step down.

Mr. Naylor: Your Honor, before opening the defendant's case, I must state that I have two desires in the further handling of this matter.

First, my impulse is to move for a dismissal of this action on the multiple number of grounds, at least two of which have already been brought to your Honor's attention at the time of the interlocutory stage of the case. That was the motion to dismiss for lack of jurisdiction and the motion to dismiss because the action was obviously barred by the statute of limitations, the applicable California statute.

The other impulse is not to interrupt the hearing in this case, but to proceed with the showing of the defendant's evidence and let the matter go to a final hearing so that it is not held up and the final action of the case is not delayed.

I think it would be well and fitting under those circumstances if we proceeded with the making of these motions of which I speak, as briefly as I can possibly present them to your Honor.

Now, looking back at the time our motion was presented in May of 1955, your Honor will recall that there was a motion for dismissal of the complaints for lack of jurisdiction. We [329] urged at that time that the question of title to the letters patent is not an action arising under the patent laws, but rather a patent right question based upon common law or equity which, in the absence of diversity, is within the jurisdiction of the state courts.

And if the complaint here is looked at in proper



focus, I think it will be seen as one that is based upon two theories: number one, there is the theory that Mr. Grindle was the inventor of the subject matter of the letters patent in suit, and hence should be adjudged the owner of the patent.

The second ground of the action, or second basis of the action is that Mr. Grindle is about to embark upon the manufacture of the subject matter of the letters patent in suit and has been threatened, as he says, with an action in the event that he does so.

As to the first theory of the action, as we have said, this is not an action that arises under the patent laws. Both of these gentlemen are residents and citizens of this state and hence we have no diversity.

The authorities that we presented at the time of the presentation of the motion in its original form go quite far in laying down the rule that should be applied by the federal courts in determining matters of jurisdiction where a controversy of that type is before the Court: first, an [330] absence of diversity, and, secondly, a controversy affecting title to the letters patent in suit. And the last case that we called the Court's attention to was the case of *H. J. Heinz Company v. Superior Court* at 42 Cal. 2d. 164, and especially at page 172. That was a case decided January 29, 1954, and in that case the Court observed:

"It will be noted that the statute 28 U.S.C.A. 1338(a) *supra*, states that the Federal District Court has exclusive jurisdiction of actions arising under federal patent law. It does not purport to cover all



patent right questions which may arise in some other kind of an action or case such as one based on common law or equity. The latter actions manifestly are within the jurisdiction of the state courts. As said in Section 711, the predecessor of 28 U.S.C.A. 1338(a) *supra*, does not deprive the state courts of the power to determine questions arising under the patent laws but only on assuming jurisdiction of cases arising under the patent laws.”

So we think that the complaint, insofar as it presents or seeks to present, a claim of title or ownership of the subject matter letters patent in suit, this controversy would be justiciable under the state law.

There has been added to this, as we shall demonstrate, a further reason why this is no longer a controversy at all [331] concerning anything that Mr. Grindle claims he invented.

We have stated in our opening statement and we shall demonstrate before this Court this further angle: If the record here be read to date, it will be seen that Mr. Grindle does not assert that he was the inventor of the subject matter of Claims 2 and 3 of the Welch patent in suit. He does not profess that he made the development which is spelled out in those two claims. At best, he asserts that he was the inventor of the subject matter of Claim 1. But that Claim now stands disclaimed. If Mr. Grindle ever had a claim—which we emphatically deny and resist—to the subject matter of Claim 1, Mr. Grindle under the statute and the interpreting authorities

is bound as a subsequent owner by any disclaimer that is filed in relation to the patent as to any claim. Therefore, Mr. Grindle stands before this court as bound by the disclaimer which has been entered in this patent in inconsistency with that section of the answer to the complaint which admits invalidity of the subject matter of Claim 1. So the net effect of that is this: Here we see Mr. Grindle before this court with a claim of ownership of the subject patent, there being no diversity of citizenship, and yet his claim, admittedly, by his own admission, ran only to the subject matter of Claim 1, and the case taking on the complexion of a disclaimer as to the subject matter of Claim 1, thus any last vestige or semblance [332] or jurisdictional foundation has been pulled out from under Mr. Grindle and the action should be dismissed for that further reason, or amplification of the original reason, if you will, as to why this Court should not entertain jurisdiction as to the title question.

The second aspect of the motion to dismiss related to the question of whether there was a justiciable controversy within the meaning of the Declaratory Judgment Act.

I will not take the Court's time to review in detail the various detailed attempts by the plaintiff in the action thus far to put himself in the position of one who can assert the benefits or claimed benefits of the Declaratory Judgment statute with respect to actions seeking the validity of patent claims; but the best you can add that up to, as we see it on the present collection of the record, is that he has a de-

sire to embark upon a business manufacturing dipsticks. It is a desire, however, which is on all sides watered down and qualified, as, for example, you will find the statement here that he does not want to get started because Mr. Welch has a patent number on his device. And the inference you draw from that is that he thinks it wouldn't be worth his while so long as Mr. Welch has a patent. Elsewhere he adds up such facts as he has aroused the interest of capital. But when you look at that, you will find that capital has put a "go slow" rein on the project, saying, "Clear [333] the atmosphere or do something else." But in no sense can you spell out the type of business established as is called for by even the cases that go even the furthest.

Now, I am well aware of the fact that there is one Ninth Circuit case decided by Judge Denman where it was said that if a substantial investment had been made in getting set to embark upon the manufacture of the structure in question, such as setting up a plant, or I think in that case they bought some very substantial quantities of pipe—and that case is discussed in the memorandum; I don't need to review it here. But even that case looks for something more than a simple bit of wishful thinking upon the part of the person who asserts the Declaratory Judgment statute. And so there is that second ground that we urge for dismissal of the complaint.

Now, the third—or rather, a second motion, that we would like to bring to your Honor's attention at this time, is dismissal because the action is barred by the applicable statute of limitations which we

understand and apprehend to be California Code of Civil Procedure Section 338, Subdivisions 3 and 4, which, as your Honor may recall, read very briefly as follows:

“3. An action for taking, detaining or injuring any goods or chattels, including actions for the specific recovery of personal property.

“4. An action for relief on the ground of fraud or [334] mistake, because action in such case will not be deemed to have accrued until discovery by the aggrieved party on the facts constituting the fraud or mistake.”

In this situation we have to deal first with the June 10th release by Pan Am in which this individual plaintiff participated. Mr. Grindle authored that release. His initials appear on the communication as the dictator or author. He then procured the signature of his superior who was qualified to bind Pan American.

It will be noted that the release to Mr. Welch to proceed with the device in the concluding paragraph is clear and without any words of equivocation; it authorizes him to proceed and do what he will with it commercially. It seems to us that those words mean just what they said. Insofar as Pan American certainly is concerned, it was the go-ahead signal to Mr. Welch to proceed. And we think it bears the further interpretation that insofar as Mr. Grindle participated in the draftsmanship of it and did not see fit to simultaneously express by word or action or deed some reservation of any personal interest that he may have understood or thought he

had in the subject device or the subject development, then I think the Court should properly construe the June 10th, 1948, communication as a joint release, in that Mr. Grindle, by failing to declare an exceptional reservation, is deemed to have waived his rights as of that date and [335] chucked whatever interest he had into the common pot covered by the Pan American release of June 10, 1948, and he should certainly not be heard at this late date to assert some different theory.

Now, we are not standing or resting on the June 10, 1948, release alone, for the simple reason that the conduct of the parties show a development of a very substantial and detail commercial picture, and all of it stems back to the June 10, 1948, release.

In the first place, in the very first delivery of dipsticks produced by Mr. Welch, his name was put upon them as the manufacturer. Now, that brought home to Pan American, and most certainly brought home to Mr. Grindle, that here was a change in Mr. Welch's position, a change that had been induced by the very import and wording of the June 10, 1948, release, because he had embarked then upon a business of doing precisely what the release recognized would be done. And this, followed through with the manufacture by Mr. Welch, and the sale of devices to not only Pan Am, but to other airlines and to the United States Government.

Now, we state further that in that connection Mr. Grindle, having participated in the June 10, 1948, release, and at the same time having failed to assert



any personal reservation or exception from that release, Mr. Grindle is now estopped to contend that at this late date that he has [336] any interest in the subject matter affected by the release or covered by it.

In support of this second aspect of the motion, we would like also to urge that the June 10, 1948, communication from Pan Am (so far as Mr. Grindle participated in it) releasing the design of the dipsticks to the defendant to market as he saw fit, that thereby Mr. Welch was duly licensed to make and sell the dipsticks and has acted pursuant to that license in the manufacture and sale of the same.

Now, as to the staleness of the claim. It is our position, your Honor, that Mr. Grindle had knowledge from at least as early as June 10, 1948, and continuing down to date, or he had chargeability of knowledge, that at all times Mr. Welch was consistently and continuously manufacturing and selling these devices with Mr. Welch's name affixed thereto as the manufacturer.

And for those reasons we think it would be unconscionable at this late date to regard the Grindle claim as anything other than a stale claim.

Further, we urge your Honor to bear in mind that despite Mr. Grindle's personal feeling about this matter of price, which he says he negotiated with Mr. Welch, but which he now concedes was not relied upon by Pan American in the same sense in which he believes it may have been relied on by virtue of the fact that Pan American approved the [337]



various price increases that were frankly and forthrightly noticed to them. Hence, the June 10th, 1948, release from Pan American has never been rescinded or vacated or cancelled and stands without any qualification insofar as Mr. Welch is concerned.

A final word on this matter whether the plaintiff is before the Court properly on the so-called Declaratory Judgment aspect of the matter. As we asserted in the answer, and I think it is certainly true here, the plaintiff has merely gone through the motions with respect to manufacture and sale of said articles in an abortive attempt to create an actual controversy cognizable by this Court under the Declaratory Judgment Act, and that therefore this action is a sham action and should be dismissed. I think that presents the two motions that we have, your Honor. First, it is representation of the motion to dismiss for lack of jurisdiction as to the claim of ownership now amply demonstrated on this record, and, number two, the lack of a cause of action cognizable under the Declaratory Judgment Act, and, thirdly, the motion to dismiss upon the multiple grounds that we have presented, namely, the staleness of the claim, the effective release from Pan American participated in by the plaintiff, and all of those add up to the proposed proposition that the action should be terminated at this stage of the case. [338]

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